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ABSTRACT

This document is a guide to an annotated bibliography of software for use with microcompuers in adult basic education (ABE) classes. Some materials also are suitable for use in General Educational Development (GED) classes. The directory contains software reviews in the following categories: tools (such as word processing, spreadsheets), computer literacy, language arts, life skills, mathematics, miscellaneous educational areas, problem solving, science, and social studies. Each review contains title, date, version, vendor, subject area, level, program type, price, computer needed, auxiliary equipment needed, availability of instructional manual, appropriateness for ABE and/or GED, recommendation for use, and comment. The document also contains guidelines for choosing hardware and educational software, and a description of the PLATO and PLATO/WISCAT systems. Appendixes include a bibliography, a software evaluation checklist, and a glossary. Software is indexed by title, by publisher, and by type. (KC)

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AN ADULT BASIC EDUCATOR'S
DIRECTORY OF SOFTWARE
FOR MICROCOMPUTERS

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INTRODUCTION

There has been great excitement and apprehension for the last several years in the field of education due to the introduction of the microcomputer into the classroom at elementary, secondary, and higher education levels. It seems only a logical extension that, once computers are in use in classrooms in school systems, these same computers be put to still a further use -- to instruct adults who attend Adult Basic Education or General Educational Development (ABE/GED) classes. There is a body of research being build that suggests that adults are perhaps even more successful with computer-assisted instruction than are children or adolescents, and, from a practical stand-point, it just makes good sense to use the machines with as many populations as is feasible. So ABE/GED programs held in regular classroom or school settings, as well as those held in more non-traditional settings, are beginning to see the need to become familiar with and to use the new technology and methodology with which computers supply us. So what's the problem? Why aren't computerized ABE/GED classes springing up all over the country?

One obvious reason is cost. A second obvious reason, which shall be addressed later in the introductory material, is lack of good, reliable information about which hardware (computers, monitors, etc.) to buy. So how do you know which machine to purchase for your system? What questions should you ask in relation to buying a computer, either for your home, office, or school system? We hope to address some of these issues further into this document.

A third less obvious, but perhaps more important, issue for those persons who are purchasing equipment for educational purposes, is how much software is available and what is it's quality? In the process of volunteering to help set up a computer curriculum for a non-profit literacy organization, we had to ask ourselves the same questions. What we found was that there is no answer readily available and no quick source to go to for the answers.

It is to the end of answering these questions for ourselves and hoping to alleviate some of the anxiety around these issues for others that this project came into being through a federal 310 grant administered by the Mississippi State Department of Education, Division of Adult Education. Adult educators are the ideal people to set up criteria to judge educational software for adult students as they are versed in theory and metholology regarding adult learning. Combining that criteria with people who were active in a voluntary adult basic education program and who had some knowledge of microcomputer systems and uses has yielded a body of critical information previously unavailable, yet easily readable and understandable at any performance level, whether teacher, administrator, or user, whether a computer novice, a hacker (a computer fanatic), or a scientist. We strongly feel that this is information which could and should help new adult programs get their feet wet in the world of high technology and which will also help those who have already made the plunge polish their programs and curriculums.

The remainder of the introductory materials will discuss various aspects of this project and give some "tips" as to how to go about selecting both hardware and software for your new or already existing program. There is a brief discussion of the methodology used to set up the software evaluation criteria, an explanation of the common types of educational software available, a discussion of some of the "buzz-words" that are bantered around in computer-ese, and a short narrative on PLATO-WICAT, a self-contained computer-managed instruction system. Finally, there will be the software reviews themselves followed by our appendices and the glossary. The software reviews are arranged by subject area within the main document. Apendices will list software by publisher, software type, and software title. The glossary will define various computer terms that are used throughout the document which naive users may find confusing; hopefully, having the glossary readily available will reduce some of this confusion and make this document more practical and much easier to use. Our great hope is that this research will create some clarity in the field of educational microcomputing with adult students, thereby improving the quality and quantity of methods and information that can be made available to that courageous population who is seeking to increase their educational level and improve their quality of life.

Methodology for Study

Prior to beginning the actual review process of individual pieces of software, a software evaluation checklist was designed to aid the reviewers in objectively examining the programs. A simple three-point Likert scale was developed with one being poor and three being good. There were twenty-nine items on the scale covering a range of topics relevant to educational software, including documentation for teacher and student, use of color, sound, and graphics, ease of use, interest level, performance levels, appropriateness of content, and others. Items on the checklist were a compilation from several sources: Practical Guide to Computers in Education, Microcomputers and the 3 R's, and Materials and Methods in Adult Education. For detailed bibliographic information, see Appendix A.

The three raters were all second year doctoral students in the Adult Education program at the University of Southern Mississippi and were all teaching in a voluntary ABE/GED setting during the time of the review process. Prior to beginning individual reviewing, a procedure was defined to establish the "inter-rater reliability" or the amount of consistency among the software reviewers. Three pieces of educational software were randomly selected for each reviewer to evaluate using the checklist. Afterward, a group meeting was held to compare ratings on each selection; inter-rater reliability was more than .65, a fairly good consistency rate for a non-scientific study. This process of developing internal consistency among raters also gave us an opportunity to work out a few bugs in the evaluation checklist and to more fully describe to each other our own viewpoints on educational software. A copy of the checklist is included in Appendix B.

Following the group meeting which allowed us to put the final polish on the software evaluation checklist (for this project), each reviewer began to individually evaluate the software on hand. We had available to us through the university, individual software companies, and friends over 200 pieces of educational software and teacher tools and utilities which are included in this document. Each piece was worked through by one of the three reviewers, a checklist was completed for it (although not included in this manuscript), and a narrative review was written, including strengths, weaknesses, and as much rationale for our decisions about the software as space and time allowed.

It must be noted that it was neither within the scope of this project nor the intention of the staff of the project that this document would represent a complete annotation of educational software. We have included as many individual pieces of software as possible, but there are many more on the market which we were unable to look at due to the constraints of cost and time. As a result, there is plenty of room for more research in this particular area, and we shall welcome that new information heartily.

CHOOSING HARDWARE

For most ABE teachers the issue of choosing computer hardware is moot -- they use whatever the school system will let them use and feel lucky to get it. This situation might be a blessing in disguise, however. Making hardware choices is a complex, difficult, thankless task that is filled with uncertainty. In fact, there are only three facts that a hardware-purchasing teacher can be sure of -- 1) no matter how big your budget, it will be not quite big enough to get what you really need; 2) when it comes to hardware, everybody has an opinion; and 3) no matter what decision is made, someone is going to be unhappy. So, keeping these caveats in mind, here is a brief guide to buying hardware.

YOU'VE GOT TO HAVE A SYSTEM

Unfortunately, buying a computer is not as simple as buying a television set; it's more like buying a component stereo system. Computers come in chunks. The first chunk you have to consider is the most important one -- the CPU, or central processing unit. This tiny micro-chip is the actual computer. Since this all-important chip is so small, it is usually packaged with other chunks, or components in a plastic or metal box.

Memory

Most of the talk about CPU's centers around memory, or electronic storage. A computer's memory is broken down into two kinds -- ROM (read only memory) contains special instructions to run the CPU that were installed at the factory; RAM (random access memory) is the part of memory that the user can put instructions into. When shopping for a computer it is important to know how much RAM is available, not just the total RAM and ROM. Memory is measured in K (1024 bytes). A K of memory is roughly enough to represent 1,000 typed characters, or one double-spaced typed page in the real world. In the old days (two or three years ago), microcomputers with from 32K to 48K were considered quite powerful and adequate for any computing need. Now, 64K is thought of as the minimum requirement for serious computing, 128K is becoming standard, 256K is commonly available, and Apple's Macintosh can be bought with 512K of memory.

Auxiliary Storage

RAM is great stuff, but it has one problem. When you turn the computer off, all the instructions that you have loaded into RAM go away. In order to avoid typing in each program you wish to run every time you turn on the computer, you have to use auxiliary storage of some kind. Many people start off using cassette tapes for auxiliary storage, but cassettes prove to be unbearably slow. The standard solution to the auxiliary storage problem, for now at least, is called the floppy disk drive. Floppy disks, the familiar "computer disks" that most commercial programs are sold on, are made of the same material as audio tapes, but the disk drive accesses information stored on floppies many times faster than cassette players. The storage capacity of floppies ranges from 120K to about 400K of information. Hard disk drives are many times again faster than floppies. Hard disks also store many times the information that floppies do; hard disk storage is measured in megabytes, each megabyte consisting of 1000K.

Storage systems continue to improve. Many computers, including the Apple Macintosh are using smaller, more powerful versions of floppy disks. Already, some portable computers are using magnetic bubble memory for storage. Computer hardware designers are talking about memory chips similar to RAM that will be able to retain their information when turned off. Perhaps the most exciting storage development on the horizon is the laser disk. Although we are still a long time from the perfection of this technology, designers are speaking of laser disk capacity in gigabytes -- each gigabyte consists of 1000 megabytes or one million typed pages of information.

Input Devices

In order to communicate with the CPU, people must use input devices; the most familiar of these is the keyboard. The typical micro-computer keyboard looks much like a typewriter keyboard with extra keys. The keyboard can come attached to the CPU unit, or it can be detached, allowing greater flexibility for the user. The arrangement of the actual keys differs from computer to computer -- the most common configuration is the standard QWERTY arrangement found on most typewriters; however, some computers are now using the faster DVORAK arrangement, and at least one, the Apple IIc, allows users to switch back and forth between the two systems with the touch of a button. Input devices are by no means limited to keyboards. Other common input devices include game paddles, character readers, IBM card readers, joysticks, all sorts of environmental sensors, and, of particular interest to teachers, test card readers.

Output Devices

Computers communicate with users through output devices. The most common output device is the computer monitor. Like keyboards, monitors come in many variations. They can be attached to the CPU box or be stand-alone components. They can be small enough to fit in the palm of a Japanese hand, or they can be as large as projection screen tvs. In fact, tv sets are often used as monitors with inexpensive computers with mixed results. Monitors can be either monochrome or color. The most popular monochrome monitors are either green on black or yellow on black. As a general rule monochrome monitors have better resolution, or image sharpness, than do color monitors. A few new monitors using LCD (Liquid crystal diode) technology feature flat screens, but the clarity of these "gray on silver" monitors is still poor.

Another important output device is the printer. Printers also come with a confusing variety of features. Basically, there are three areas of concern when shopping for printers -- 1) quality of print, 2) speed, and 3) compatibility. Although several new printer technologies, such as laser printing and ink jet printing, are vying for attention, most affordable micro-computer printers are either dot matrix or daisy wheel. Dot matrix printers strike the paper with combinations of small pins in order to form characters. The quality of the resulting type can range from the rough computer-print we are all familiar with from mail-order contests to a very good, almost typed look. The great advantage dot matrix printers have is speed. Even inexpensive dot matrix printers can print more than 130 characters per second (cps). Dot matrix printers are also indispenable for printing computer-generated graphics. Daisy wheel printers, on the other hand, are known for being slow and producing very sharp characters. Daisy wheel printers use the same typing elements that many electric typewriters use, so the quality of print is just as good as that of typewritten work; however, most daisy wheel printers can only print between 12 and 25 characters per second and can not be used for graphics.

A word about printer compatibility. Almost every printer manufacturer maintains that their printer will work with almost every computer. This is almost true. Actually printer compatibility is often a issue of software than of hardware. The word processor that you use must be able to communicate with the printer you choose. Often people buy expensive printers with many flashy features only to find that their word processors do not utlize these features. Even if your word processor does support all the tricks promised by the printer manual, you still have to go through the incredibly frustrating process known as "printer configuration" to teach the word processor what special symbols the printer needs to operate. If you are lucky, your word processor already has a configuration set up for your specific printer, usually listed as an option in the configuration menu. The safe way to approach this problem is to not buy a printer until you have seen the word processor you intend to use work with that specific model, and, as is so often the case, the safe way is often impossible because printers are often bought long before word processors.

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Modems

A popular device that handles both input and output (such devices are called I/O devices) is the modem. The modem is the device that connects one computer to others, usually by way of the telephone system. Modems come in many different price ranges and with different features such as auto-answer and auto-dial. Some even turn themselves on to answer incoming calls and take messages. Not only do modems allow individual computers to communicate with each other, they also allow computers to connect with large main-frame operated networks such as Compuserve and The Source. These networks provide services such as electronic mail and offer access to vast on-line databases, or electronic libraries. Although it is still very expensive to go "on-line" (the long-distance bills alone are enough to seriously cripple a sizable budget), the future of educatonal computing might well lie with the networks.

Networking

Computers can also be linked together locally. Local networks allow several computers to communicate with each other and to share resouces such as hard disk drives and printers. This kind of arrangement can be especially useful and cost-effective in educational settings. Some networks even allow computers of different kinds to be linked together.

The Major Contenders

While no computer manufacturer advertises that their computer is not suitable for educational uses, there are only four micro-computers that can be considered serious educational computers -- Apple, Commodore, Radio Shack/Tandy and IBM. By the time that this report is printed, this line will probably be inaccurate and out-dated. So it goes.

For the last eight years the most popular educational computers, for users and programmers alike, are by far members of the Apple II family. In fact, it is tempting to begin and end any review of educational hardware with the Apple. The current II's, the IIe and the IIc, are the work horses for the majority of educational projects and are supported by a vast library of educational software. The IIe continues the Apple tradition of "open architecture" -- the top opens up to allow users to add electronic chips mounted on "boards." This feature makes the IIe the most versatile computer on the market; boards are available that allow the IIe to operate robots, make music, and even talk. Apple's first attempt at a portable computer, the IIc, is compatible with IIe software and comes complete with several of the most popular boards available on the IIe at a lower price. But the IIc cannot be expanded in the same way as the IIe -- what you buy is what you get. Almost. There has been a new wave of devices that allow the IIc to do some of its brother's fancy tricks by connecting boards outside of the computer itself. These new accessories make the IIc an even more attractive computer; however, one of its main features, its portability, may be a draw-back in some educational situations. In any case, the IIc is presently the most versatile and popular educational computer.

The Commodore 64 has become a low-priced alternative for many schools. The Commodore offers roughly the same computing performance that the Apple II series does at about one-fourth the cost. This price differential becomes very important when multiplied by the number of computers a large school district might be considering buying at one time. While there is not nearly the amount of software available for this computer that there is for Apple, Commodore's library is sizable and growing.

Radio Shack offers an array of computers ranging from lap-top portables, the Model 100 and Model 200, to fully-powered IBM compatibles with hard disk drives. The company is now in the process of discontinuing all of its Radio Shack TRS-80 computers, long popular alternatives for educators, and developing new lines under the brand name of Tandy, so the picture, as far as education is concerned, is a bit cloudy.

Educational computing lost an important and promising alternative when IBM chose to discontinue the fledgling IBM PC jr. The PC jr was a powerful, yet low cost computer that would have been perfect for educational uses if given time for the necessary software to be developed. This software is still being developed for use on the IBM PC, but the PC, while it remains "king of the mountain" in the business world, is simply too expensive for most educational budgets. There are several lower-cost IBM compatibles, like the Corona and the new Kaypro 16, but be warned -- no computer is 100 % IBM-compatible except an IBM. Be sure that the software you want to use works on the particular compatible before you buy.

Also Rans

Don't panic if you have a computer lab full of computers that didn't make the above list. There are many computers that are no longer being made that still enjoy large libraries of educational software. Texas Instrument's excellent TI 99 series has been discontinued, yet the 99 still has the largest array of PLATO software available (see our discussion of PLATO on page 16). There are still many Commodore VIC 20s still seeing service in many schools. Atari has sold and is still selling several adequate computers for which there is a fair amount of software available, but, for the most part, potential Atari buyers are awaiting the introduction of the new Jackintosh (see below). In short, if you already have a computer, chances are that you can find educational software for it.

And Now A Word From Our Future

For Apple Macintosh users the future is now. Thought by many to be "too much fun" to be a serious computer, the Mac is, in many ways, the state of the art. The "computer for the rest of us" features awesome power, incredibly sharp graphics, and a whole new way for users to communicate with the computer. The potential for the Mac in education is limitless -- it has the power to do things that no other computer can do, yet it is so "intuitive" to use that pre-schoolers can operate it (in fact many Macintosh owners pride themselves on having never opened a software manual). So much for the good news. The bad news is that it costs quite a bit to have the future now. The Mac, fully equipped, rivals the IBM PC in cost. Furthermore, software has been very slow in coming for the Mac, because the computer has proven to be very hard to program. At the time of this writing, the Mac is two years old, and finally there is getting to be quite a number of good tools available. But educational software is still lacking. Out of all of our reviews only one CAI program is available for the Macintosh, Davidson's excellent speed reading program, page xx. We have heard rumors of only two more. So, for now, the future still belongs to the future.

Alternate Futures

As we finish up work on the first edition of this review, summer 1985, the entire microcomputer industry is in trouble. Sales are at best sluggish, at worst non-existant. Some analysts, saying that the microcomputer craze was just another fad (the hula hoop of the eighties), have predicted death for the entire industry with the exception of IBM. But others are saying that the market is simply in a lull as consumers await the introduction of newer, better machines. You can be sure that the makers of these new "wonder toys" are betting on the second view. Both Atari and Commodore have announced new computers that should be available at the end of the summer -- the Atari Jackintosh and the Commodore Amiga. Both computers are reputed to have Macintosh-like operating systems and features but are expected to sell for about half the cost of a Mac. There may also be a wave of new Japanese computers based on the MSX operating system. These computers will offer much the same power and features found in the Commodore 64 for a much lower price. There is even some talk of MSX computers being installed inside tv sets. Also look for cheap computer-video disk link-ups, a combination that could very important for educational applications.

CHOOSING EDUCATIONAL SOFTWARE

The conventional advice on choosing software of any kind is "don't buy anything that you have not personally used." This advice is good but simply not very practical for most ABE teachers, or for anyone else for that matter. Educational software is not often stocked in computer stores, and, when you can find a program, most computer salesman are more interested in selling hardware than in helping teachers review software. Needless to say, most educational software shopping is done "long distance" with only inflated advertising claims and reviews similar to this one to guide the buyer.

Fortunately there is hope. Many educational software companies and several large mail-order software vendors will mail educational institutions individual programs on thirty day approval. You can contact the software companies directly using the telephone numbers listed in the reviews.

So you've got a program on approval, now what? The best advice we can give you is to play with it. A sense of exploration and play is very important when reviewing educational software. Go through the program as you imagine your best students would, but don't stop there. Then go through the program as you think your less successful students would. Is the program easy to use? Does it hang up or quit when you press the wrong keys? Is the information presented accurate, or useful?

The main thing to remember in buying software is the population you're buying it for. They're the ones who are going to use it and, hopefully, benefit most from it. Below are some of the classifications of educational software that you may hear bandied around when shopping. Good luck!

TYPES OF EDUCATIONAL SOFTWARE

It does not take long for a software-shopping educator to get discouraged with the sheer number and variety of programs available. There are literally thousands of spreadsheets, word processors, games, data bases, and programming languages that somebody somewhere will call educational software. As with many things in the real world, computer software does not neatly fall into classifications -- a first rate statistics package might be simple enough to be thought of as educational, giving students insight, and powerful enough to be considered a serious statistical tool, providing researchers needed number-crunching. But, thankfully, there are some general guidelines to help organize this multitude of programs.

Practically all of the software that adult basic educators would be concerned with breaks down into three general categories -- tools, computer managed instruction, and computer assisted instruction. Although this system of categorizing is not very exclusive (some programs might fit into more than one category), it is a useful way of looking at the available educational software.

TOOLS

This is largest and the most vague of the categories. Tools include most of what we regard as "not educational" software, programs that teachers and students might use to accomplish jobs that are not necessarily educational. Although there are many specialized software tools to help in such diverse tasks as watering your lawn and figuring your income tax, most tools help with one or more of four jobs -- word processing, numerical analysis, data sorting and storage, and graphics generation.

Word Processing

Clearly one of the most useful tools for any educator, word processors have the potential to truly revolutionize written communication. Word processors allow text to be entered from the keyboard in much the same way a typewriter works. However, instead of printing directly onto paper as a typewriter would, the word processor stores the information being typed in memory and displays it on the computer's monitor. This operation allows changes to be made to the text -- additions, deletions, re-writing -- before the document is printed.

The word processor can also be used in the classroom to great advantage as a tool for the student as well as the teacher. By taking the tedium out of revision, the computer greatly enhances the process of re-writing. In fact, students and teachers alike often find the entire writing process more enjoyable when using a word processor.

Numerical Analysis

Although this category includes all sorts of statisticl programs, the most common type of numerical analysis program is the spreadsheet. A spreadsheet is basically a grid composed of individual "cells" and looks much like an accountant's ledger. Each cell can contain letters, numbers, or a mathematical formula. These formulas allow the user to build mathematical "models" and then to see how changing small parts the model affects other parts or the whole. The most common use for spreadsheets is financial planning, but many people have adapted spreadsheets for use in scientific and educational modeling as well.

Data Sorting and Storage

The most common data sorting and storage programs are called filing systems. A filing system works just like a file cabinet, only better. Each file is broken down into "records" and each record is broken down into "fields." A file of mailing addresses, for instance, would contain a record for each person represented. Each individual record would contain a field for the person's name, one for the city in which the person lives, one for the street address, and so on. The advantage that the filing system has over the file cabinet is that all of the sorting can be done by the computer, allowing the user to call up all the people with the last name of Abercrombie that live in Taos, New Mexico, for example. Filing systems are used to store information on all sorts of things ranging from stamp collections to credit ratings.

Graphics Generation

Simply put, graphics programs allow computers to produce pictures. Until recently, this act was quite a feat, requiring complex vector mathematics, but now there is a wide variety of programs that allow the use of such input devices as graphics tablets, light pens, and mice, making grapics generation much easier. New computers, such as the Macintosh, have made graphics programs a major part of their marketing strategy. Now there are even digetizers for some computers that translate all sorts of images into computer graphics.

Integrated Packages

Lotus 1-2-3 introduced a new concept in software tools, the integrated package. Simply put, the integrated package allows users to use a variety of tools without changing programs. Most commonly, integrated packages combine spreadsheets, filing systems, and business graphics, although some new packages include word processors. The Lotus corporation is still the king of integrated packages with Symphony for the IBM and Jazz for the Macintosh, but an integrated package for the Apple II series, Appleworks, is fast becoming the most popular software tool in America.

Computer Managed Instruction

Although the direct use of computers in the classroom is still a hotly debated issue, the use of computers to manage education is clearly here to stay. Ranging from simple grade book programs to elaborate grade-attendanceaccounting packages, CMI is probably the fastest growing area of educational software. But the very nature of most adult basic education enterprises makes CMI either unnecessary or bothersome. Many of these packages are not able to keep track of small classes of diverse students, and many are very "grade" oriented.

Computer Assisted Instruction

The major focus of this review is on this type of educational software. CAI is the kind of software that immediately comes to mind when people mention "educational software. There are thousands of CAI programs and almost none specifically written for ABE. So, the major task of this project has been the sifting through of the large library of "traditional" educational software. Over the few short years that educational software has been written, the programs have tended to fall into four major categories -- drill and practice, demonstration, simulation, and tutorial.

Drill and Practice

By far the most common and the most criticized kind of CAI is drill and practice. In its most simplest form, drill and practice is merely a workbook exercise put onto a computer -- the computer presents a question, the student types in the answer, the computer tells the student if the answer is right or wrong and precedes to the next question. More sophisticated versions use techniques much like the ones used in "programmed learning texts" to automatically diagnose a students level of learning and to present appropriate material. Many drill and practice programs now reward students' good work with computer action games.

Drill and practice is the most common kind of CAI because it is the easiest kind to write. But drill and practice has gained many critics who claim that the programs encourage rote memorization, not learning. Critics also accuse teachers of using drill and practice programs as "busy work" for problem students. Drill and practice programs, in spite of their limitations can be very useful in ABE classes for polishing those skills that do require rote memorization, the multiplication tables for instance. Many adults, embarrassed by their lack of knowledge, also find working with a computer much more comfortable than drilling with a human teacher.

Demonstration

A small but growing category of CAI, demonstration, is gaining many proponents. As the name implies, demonstations are computerized illustrations of real-world events, or theories. Demonstration programs are often teacher-operated instead of student-operated, and often shown to entire classes at once. Demonstrations can be especially useful in ABE settings as an inexpensive way to illustrate scientific principles.

Simulation

Simulation programs are very similar to demonstration programs in that they are electronic models of events, situations or theories, but they allow teachers and students to "tinker" with the models and see the results. This allows simulated experiments with dangerous materials such as acid. Many simulations also involve sociological and ecological models. Many take the form of games. Again, like demonstrations, simulations have much to offer the ABE classroom.

Tutorials

The most praised CAI programs are tutorials; however, this category is also the smallest because tutorials are very hard to write. Tutorials combine elements of all the above categories to lead the student through a learning experience. The program might demonstrate a principle, question the student to gage the effectiveness of the lesson, set up a simulation and allow the student to experiment using the principle taught, give a drill and practice review of the lesson, and finally test the students mastery of the subject. A good tutorial is characterized by its ability to anticipate student questions and problems. Tutorials also often use open-ended questions, real problems for programmers. See our review of the PLATO system (page 16) to get an idea of how useful a complete tutorial curriculum can be in ABE/GED situations.

In summary, there are masses of software that are called "educational" on the market today. It is the job of the wise and prudent ABE teacher or administrator to look at as much of it as possible and to decide what will benefit his/her classrooms most in terms of supporting teachers and offering challenges and new methodology to students. We hope the information that follows will help make this awesome job somewhat easier.

PLATO/WICAT

Imagine a comprehensive, complete, already organized curriculum for both ABE and GED students that is completely computerized. One that administers pre-tests, places students in the curriculum; develops individual lesson plans; tutors, drills, reviews, and gives mastery tests in every subject area; and finally administers a pre-GED readiness test. Imagine a system that does all of this and that is so flexible that it allows teachers to write and add their own computerized lessons and integrate them into the curriculum. And imagine that this system runs on powerful microcomputers that feature startling graphics and touch-sensitive screens. Too good to be true? Not really. Not only does such a system exist, it has the benifit of over twenty years of development and refinement. The system is PLATO.

In 1962, with the help of a National Science Foundation grant, the University of Illinois began the develop the first computer-assisted education programs and used the name PLATO (Planned Logic for Automated Teaching Operations) for the project. The Control Data Corporation, a large electonics firm, acquired the system to train their own employees; PLATO was so successful that in 1976 Control Data began offering PLATO instruction to the public. Presently the PLATO library has over 10,000 hours of instructional programs, covering all levels from begining addition to advanced engineering. The vast majority of PLATO courseware is still only available via electronic hook-up with their main frame computer in Minneapolis; however, in the last few years much of PLATO has become available on specially-designed Control Data microcomputers. Even more recently, Control Data has begun translating PLATO programs to run on other microcomputers; however, the selection is still very limited. Check in the company index listing under Control Data for a more complete listing.

THE PLATO APPROACH

Not very flashy or innovative by today's standards, PLATO's great strengths are its depth and comprehensiveness. It offers teachers a game plan, although it is flexible enough to allow for other alternatives.

Although the is a vast amount of variety, most of the PLATO lessons follow a familiar format. After taking a placement test in a given area, the student works through a self-paced tutorial. After completing the tutorial, the student has four options for continuing: (1) review the entire tutorial, (2) read a short review of the material, (3) work a practice drill on the material, or (4) take a mastery test. Most of the tutorials make good use of the

Control Data computer's sharp and clear graphics, and the newer lessons use touch sensitive screen alternative commands. Most of the text is presented in the eighty column format, which might make it hard to read for some students, especially when using non-Control Data computers.

Although PLATO does cover many basic skills, almost all of the lessons require reading ability. Recently PLATO has joined with another major educational computing giant to become PLATO/WICAT. The WICAT system's strength is said to be in lower-lever instruction. The new joint venture promises to be even more comprehensive than what is now available.

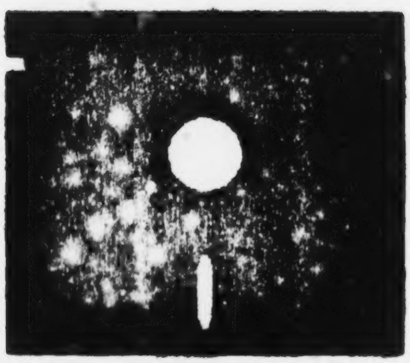
For the most part, PLATO's implementation on other microcomputers is a successful translation of the Control Data product. The programs have the same feel and the same pace. The lack of a touch screen doe not seem to be a serious draw-back. The biggest problem, without a doubt, concerns the lack of resolution on many computer monitors; the clarity is just not as good, so monochrome monitors are best when using PLATO.

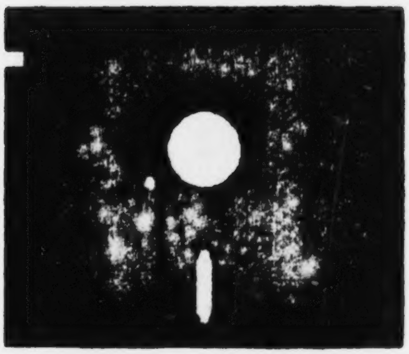
THE BOTTOM LINE

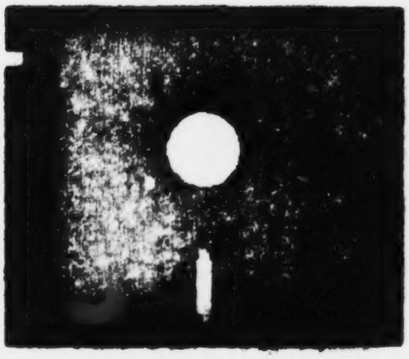
The most discouraging thing about PLATO is the price. PLATO is simply expensive. Individual Control Data Microcomputers cost $5,000.00, enough to buy four Apples or a whole roomful of Commodores. The software, when bought on a disk by disk basis, is not overly expensive, but the sheer volume of material makes the package prices seem prohibitive. And going on line with Control Data's main frame computer is even more expensive. Control Data does offer attrative package deals with sizable discounts, but, for most adult basic education programs, PLATO is still out of reach.

Using PLATO on other microcomputers is more realistic. Again, the software seems very expensive, but the amount and depth of material makes it a good buy. Unfortunately for adult basic education programs, much of the needed software is only available for the Texas Instruments TI99/4A, a discontinued computer. There is, however, a growing library of IBM PC and Apple II compatible software, and, hopefully, the situation will improve. Then more adults can take advantage of the best CAI money can buy.

REVIEWS







TOOLS

TITLE: The Print Shop

DATE: 1984
COMPANY: Broderbund Software
1938 Fourth Street
San Rafael CA 94901
(415)456-6424
LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: 49.95
AVAILABLE FOR: Apple, IBM
AUXILLARY EQUIPMENT: Printer MANUAL: Not Available
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: This is a teacher utility which allows one to use the Apple and printer to make letterhead, greeting cards, banners, signs, and other interesting items. This might be useful for an elementary teacher but it has little relevance for an ABE/GED classroom setting.

TITLE: Keystat: Microcomputer Statistics

COMPANY: Brooks/Cole
Monterey CA
LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: Keystat is a statistical package for microcomputers. It figures everything from very basic statistical concepts like means, medians, modes to very sophiscated statistical measure. This is a neat package if you're into statistics, but it has little place in an ABE/GED setting.

TITLE: Typing Tutor

DATE: 1981
COMPANY: Electronic Publ. Co.
1230 Ave. of Americas
New York NY 10020
(212)245-6400
LEVEL: ABE/GED
PROGRAM TYPE: Tool PRICE:50.00
AVAILABLE FOR: Apple/Commodore/IBM
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is just what it says -- a typing tutor program to teach keyboarding. This program is thorough but not as much fun as MasterType. The concepts taught are the same, however, and this package is equally useful for adult students.

TITLE: Computer Connection for Teachers

DATE: 1983
COMPANY: Instructional Software, Inc.
1278 Massachusetts Ave.
Cambridge MA 02138
LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: This disk contains programs which should provide a good introduction to and on computers in the classroom. Several ways computers are used in classroom situations are also demonstrated. There are also two programs which will help you select the appropriate equipment for your needs. Administrators with these sorts of decisions to make might find this a useful disk to preview.

TITLE: Apple Grade Book

COMPANY: J & S Software
140 Reid Ave.
Port Washington NY 11050
LEVEL: Teacher
PROGRAM TYPE: Utility PRICE:
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: This disk allows the teacher to make a class roster, list grades for each student, average grades, etc. Since grades are not normally given in ABE/GED classrooms, this disk probably has little use in these programs. However, teachers who also teach traditional (public school) classes might want to look at this.

TITLE: Puzzles and Posters

DATE: 1984 VER: 1.x
COMPANY: MECC
LEVEL: Teacher
PROGRAM TYPE: Utility PRICE:
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Printer MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a fine teacher utility program which allows the user to prepare three types of word puzzles with which to test or use as practice with students. The teacher enters all words to be used, so the range can go from very elementary to advanced. Each of these programs has the ability to generate different puzzles from the same set of words which may be helpful if used in testing.

TITLE: Study Guide: Teacher Utility

COMPANY: MECC
LEVEL: Teacher
PROGRAM TYPE: Utility PRICE:
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: NA
APPROPRIATENESS: NA RECOMMENDATION: Yes
Comments: With this utility, teachers are able to create, edit, and store sets of questions and answers on separate data disks. It also allows printing of these materials to use as tests or worksheets. The student may use the diskette and separate data disk to review questions on the computer, but management functions cannot be accessed by student. This can be easily used in ABE/GED classroom settings.

TITLE: Designing Instructional Material, Vol. 2

DATE: 1983 VER: 1.0
COMPANY: MECC
LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: 70.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: These programs give the user an idea of how computer instruction works in the classroom and also provides guidance in evaluating and designing computer instructional materials. This is not a particularly inspiring package though one does gain a sense of how computer software attempts to teach lessons.

TITLE: Teacher Utilities, Vol. 1

DATE: 1981 VER: 4.3
COMPANY: MECC
LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: 46.00
AVAILABLE FOR: Apple MANUAL: Fair
AUXILLARY EQUIPMENT: 2 Drives/Printer
APPROPRIATENESS: NA RECOMMENDATION: Yes
Comments: These are teacher utilities allowing the teacher to create mini-tests, use graphics, and create data disks for the work games on later disks. This would be a good package to use in ABE/GED classes as teachers could create interesting individualized lessons for their adult students.

TITLE: School Utilities, Vol. 1: Projections

DATE: 1981 VER: 2.6
COMPANY: MECC
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: This teacher utility allows one to project enrollment, revenues, and salaries. May be useful for a program administrator around budgets, costs, etc., but this package is not for use in an ABE/GED classroom.

TITLE: Teacher Utilities, Vol. 2,3,4

DATE: 1981 VER: 2.0
COMPANY: MECC
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: 100.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: Yes
Comments: This is an extension of Volume 1 Teacher Utilities by MECC. This provides games which can be used in classroom situations using data disks made with Volume 1. Recommended.

TITLE: Grade Manager

DATE: 1983 VER: 1.1
COMPANY: MECC
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE:
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Printer MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: This is a fairly powerful utility program that allows teachers to keep class rosters, select grading methods, enter scores, compute grades, and print out grades. This might be helpful in regular classroom settings but is probably not very useful for ABE/GED settings.

TITLE: MasterType

DATE: 1981
COMPANY: Scarborough Systems, Inc.
25 N. Broadway
Tarrytown NY 10591
(914) 332-4545
SUBJECT AREA: Utility LEVEL: ABE/GED
PROGRAM TYPE: Tool PRICE: 39.95
AVAILABLE FOR: Apple/Atari/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: A good typing tutor program in game format that lets students progress as their keyboard speed increases. Very appropriate for adults who will enjoy the graphics and the self-paced format. This would be appropriate for an ABE/GED setting that used computers and would need a keyboarding tool.

TITLE: GED 100 Series

DATE:1985
COMPANY: Steck-Vaughn
P.O. Box 2028
Austin TX 78768
(512) 476-6721
SUBJECT AREA: Utility LEVEL: ABE/GED
PROGRAM TYPE: Computer Managed Instruction
PRICE: 975.00 (Set of 14 disks)
AVAILABLE FOR: Apple/TRS
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: Yes
Comments: This computer-managed instruction package is geared towards getting students through the GED test with passing scores. There are lessons on each of the five subject areas with scores given after each lesson and an individual prescription generated according to the number missed and review needed. A review disk is available on request from Steck-Vaughn on 30 day approval.

TITLE: Statpro Statistics

DATE: 1983 VER: 1.1
COMPANY: Wadsworth Electronic Publ. Co.
8 Davis Drive
Belmont CA 94002
(415) 595-2350
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: This is a sophiscated statistical package that is not appropriate for use in ABE/GED classes. Teachers/administrators who have a knowledge of and need for statistical procedures might want to take a look at this one. It is not a tutorial; you must have prior knowledge of statistical procedures and microcomputers before you tackle this.

TITLE: Statpro Graphics

DATE: 1983 VER: 1.1
COMPANY: Wadsworth Electronic Publ. Co.
8 Davis Drive
Belmont CA 94002
(415) 595-2350
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: Statpro Graphics is a sophiscated package for generating graphics for use in statistical analyses. Teachers/administrators using the Statpro Statistics package may find this useful, too.

TITLE: Statpro Database

DATE: 1983 VER: 1.1
COMPANY: Wadsworth Electronic Publ. Co.
8 Davis Drive
Belmont CA 94002
(415) 595-2350
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This third component of the Statpro package is for creating databases to store large amounts of raw data or statistical data. Might be nice to have along with the other two components, but it is not useful for ABE/GED settings.

TITLE: CARIS

DATE: 1983
COMPANY: Britannica Computer Based Learning
425 North Michigan Ave.
Chicago IL 60611
SUBJECT AREA: Utility LEVEL: ABE
PROGRAM TYPE: Utility PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: CARIS, or Computer Animated Reading Instruction System, was developed by Leo D. Geoffrion and R. Daniel Bergeron at the University of New Hampshire. This programs depends on the teacher entering individualized word lists that are them presented by the computer with animated pictures to the student. Because of the amount of data that must be entered by the teacher, this program is often impractical.

TITLE: Build Your Own Classroom Activities

COMPANY: Control Data Publishing, Inc.
(800)233-3784
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Printer MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: No individual review done. See write-up on PLATO in Introduction.

TITLE: Algebra Worksheets

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Printer MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO in Introduction.

TITLE: Classmate

DATE: 1984
COMPANY: Davidson & Associates
6069 Groveoak Place, #12
Rancho Palos Verdes CA 90274
(213) 373-0971
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: 49.95
AVAILABLE FOR: Apple/IBM
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: A moderately powerful and fairly flexible grade book program, Classmate is clearly structured for formal classroom situations where progress is measured by teacher-assigned grades. It has little use, therefore, in most adult education programs.

TITLE: Crossword Magic

DATE: 1981
COMPANY: L & S Computerware
1008 Stewart Drive
Sunnyvale CA 94086
SUBJECT AREA: Utility LEVEL: ABE/GED
PROGRAM TYPE: Utility PRICE: 49.95
AVAILABLE FOR: Apple/Commodore/IBM
AUXILLARY EQUIPMENT: Printer MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: This diskette enables a teacher to generate cross-word puzzles. Creative teachers may find constructive uses for such games, particularly in ABE/GED programs where keeping the student interested is a very important part of the process.

TITLE: Master Spell

DATE: 1984 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Utility LEVEL: ABE/GED
PROGRAM TYPE: Utility PRICE:Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: 2 drives helpful MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This package provides a teacher the opportunity to make independent spelling diskettes for students or groups of students to use in drill and practice. Student records can also be stored to help the teacher diagnose remedial needs and note progress. The manual, for teacher use, is very helpful. This package would be useful in ABE/GED classes for spelling and vocabulary practice.

TITLE: Data Handler

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: 49.00
AVAILABLE FOR: Apple MANUAL: Average
AUXILLARY EQUIPMENT: Printer/2 Drives
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: These programs allow the user to set up and maintain a database. This is not appropriate for instructional use in ABE/GED classes, although individual teachers or administrators may have a use in storing large quantities of information in a database. The manual is poorly written and using a program of this type will require serious study by the user before it can be used.

TITLE: School Utilities, Vol.2: Readability

DATE: 1982 VER: 1.3
COMPANY: MECC
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This program allows a teacher to enter a passage of student writing and run various readability tests on the passage, including syllable counts, Spache, Dale-Chall, Fry, Raygor, Flesch, and Gunning-Fog Tests. As each of the tests is run on the passage, the screen will display the results and the reading level of the passage. This will be a super technique for diagnosing levels of writing and vocabulary skill with adults. Recommended.

TITLE: Computer Generated Math, Vol. 2

DATE: 1983 VER: 1.1
COMPANY: MECC
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Utility PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Printer MANUAL: Poor
APPROPRIATENESS: NA RECOMMENDATION: Yes
Comments: This disk enables teachers to generate worksheets and tests related to specific objectives in math, grade level 3-8. One of five areas of objectives may be chosen: approximation and estimation, purchasing, money, division and multiplication, and picture and equation. Program selects problems at random and printer prints the worksheet or test.

TITLE: Learning Styles Inventory

DATE: 1983
COMPANY: Educational Activities, Inc.
P.O. Box 392
Freeport NY 11520
(800) 645-3739
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 98.00
AVAILABLE FOR: Apple/TRS/IBM/PET
AUXILLARY EQUIPMENT: Printer MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes

Comments: Learning Styles Inventory is a testing package to use with students to see how they learn so that teaching may be done in the most helpful way. This is a great package to use with adults and is especially useful in a tutorial ABE/GED setting where teaching method may be changed from student to student to provide the most helpful methods for the individual learner. Printed copies of individual learning graphs may be obtained and prescriptive data is given for each student.

TITLE: Bank Steet Writer

DATE: 1982
COMPANY: Broderbund Software
1938 Fourth Street
San Rafael CA 94901
(415)456-6424
SUBJECT AREA: Computer Literacy LEVEL: ABE/GED
PROGRAM TYPE: Tool PRICE: 69.95
AVAILABLE FOR: Apple/IBM
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes

Comments: This menu-driven program is the easiest to use fully functioning word processor available. The on-screen prompts are always available and clear. Although not as versatile as the fully powered word processors (like WordStar), its ease of use makes Bank Street Writer a winner for use with students of all ages. This program is also published by Scholastic, Inc. (See review later in manuscript).

TITLE: Hi-Res Toolkit

DATE: 1984 VER: 1.0
COMPANY: MECC
LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: A machine language, HPRINT, which facilitates combining high resolution graphics and text. Not useful for ABE/GED classrooms unless some ambitious teachers want to program their own lessons and graphics for use in instruction.

TITLE: Homeword

DATE: 1984
COMPANY: Sierra On-Line, Inc.
P.O. Box 485
Coursegold CA 93614
(209) 683-6858
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 69.95
AVAILABLE FOR: Apple/IBM/Atari/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Homeword is a lightweight word processing package that has the advantages of being inexpensive and easy to learn to use. The file size is small (8 pages, 24 on the IBM), but it has many of the functions that more powerful systems have: word-wrap, block text moving, boldfacing, underlining, and centering text, and it can reformat text around internal changes or editing. Although not as powerful as some, this word processor is useful and good if document lengths are limited and no really fancy editing has to be done.

TITLE: Microsoft Word

COMPANY: Microsoft Corporation
10700 Northrup Way, Box 97200
Pullman, WA 98009
(206) 828-8080
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 195.00
AVAILABLE FOR: Apple MacIntosh/IBM
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Although we haven't personally used this package, the word from our hardware dealer (questionable though it may be) is that this is the word processing package -- now and for the future. It has more word processing features than perhaps any other package, is menu-driven, has up to 8 text windows, continuous saving of text, and on-screen display of boldface, underlining, double underlining, italics, super- and sub-scripts, and small capital letters.

TITLE: The Word Plus

VER: 1.21
COMPANY: Oasis Systems
7907 Ostrow Street
San Diego, CA 92111
(619) 279-5711
SUBJECT AREA: Utility LEVEL: All
PROGRAM TYPE: Tool PRICE: 150.00
AVAILABLE FOR: IBM/CP/M Systems
AUXILLARY EQUIPMENT: None
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: As a user and fan of The Word Plus, I recommend it highly. It is quick, easy to use, inexpensive, and comes with a variety of writing/editing tools inside. There is a tool for hyphenating words, a word-counting utility, one for finding homonyms, an a utility that tells you how many times a word was used in a particular document. The dictionary has a standard 45,000 words and gives you an option of creating a smaller specialized dictionary for much-used personal vocabulary. This package works with WordStar and Microsoft Word.

TITLE: Sensible Speller

COMPANY: Sensible Software, Inc.
24011 Seneca
Oak Park, MI 48237
(313) 399-8877
SUBJECT AREA: Utility LEVEL: All
PROGRAM TYPE: Tool PRICE: 125.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is the rcommended spelling-checker for the Apple II family. It has a dictionary of 80,000 words, is fairly cheap, and is good. Of the word processors we've reviewed, Sensible Speller only works with Homeword.

TITLE: Visicalc

COMPANY: Visicorp
2895 Zanker Road
San Jose, CA 95134
(408) 946-9000
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 99.00
AVAILABLE FOR: Apple/IBM/TRS
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Fair RECOMMENDATION: Yes
Comments: This is the spreadsheet that started it all, and it is still among the most powerful and useful on the market -- if you need a spreadsheet package. Spreadsheets are useful if you have lots of financial record-keeping to do (like how much money you're spending on software), budgets to make, or a checkbook to balance, but it's not really applicable to a classroom setting, especially in ABE/GED.

TITLE: Symphony

COMPANY: Lotus Development Corporation
161 First Street
Cambridge, MA 02142
(617) 492-7171
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 695.00
AVAILABLE FOR: IBM
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This integrated package is the new version of Lotus 1-2-3, a software winner for IBM and IBM compatibles. The word processor is good but has not speller and lacks many useful functions. If you need a database and spreadsheet, these are good ones, and the package has the plus of versatile telecommunications capacity. If you already own Lotus 1-2-3, Lotus Corporation will give a $200.00 credit towards this new (and better) update. There is a version of this package out for the Apple MacIntosh called "Jazz" made by the same company.

TITLE: Appleworks

VER: 1.1
COMPANY: Apple Computers
20525 Mariani Avenue
Cupertino, CA 95014
(800) 538-9696
SUBJECT AREA: Utility LEVEL: All
PROGRAM TYPE: Tool PRICE: 250.00
AVAILABLE FOR: Apple MANUAL: Average
AUXILLARY EQUIPMENT: ProDos Card Needed
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Appleworks is the state-of-the-art software integration for the Apple II family. The package includes a database, a word processing package, and a spreadsheet, all of which combined forms an indispensable system for information processing. From a dedicated WordStar user, folks, this package is Great! It's easy to learn to use, cheap, and plenty powerful enough for almost everything. If you've got an Apple, this is the way to go!

TITLE: WordStar
DATE: 1984 VER: 3.3
COMPANY: MicroPro International Corporation
33 San Pablo Avenue
San Rafael, CA 94903
(800) 443-0100
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 495.00
AVAILABLE FOR: IBM/Apple/TRS/Hewlitt Packard/Rainbow
AUXILLARY EQUIPMENT: CP/M Operating System
MANUAL: Poor APPROPRIATENESS: Fair
RECOMMENDATION: No
Comments: WordStar is a fairly powerful word processing package, but it is also fairly archaic. Its commands are not pneumonic and are, therefore, very difficult for most people to learn. After working with the system for four years, I'm addicted, but I can't really recommend it to a novice -- there are easier and more powerful tools areound today than there were four years ago. However, this one is still impressive if you want to go to all the trouble. Complementary tools for WordStar are MailMerge, a tool used to combine a database of names/addresses with letters or documents, and SpellStar, a spelling checker.

TITLE: Bookends

DATE: 1983 VER: 1.1
COMPANY: Sensible Software, Inc.
24011 Seneca
Oak Park, MI 48237
(313) 399-8877
SUBJECT AREA: Utility LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 79.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Fair RECOMMENDATION: Yes
Comments: Bookends is a system for creating and managing bibliographies. It is reasonably flexible and useful; however, there are several menus and subroutines which complicate its use initially. Also, you need to be especially careful to avoid accidently losing data (e.g., there is no warning that a file is full until it is too late to save the entire data) or making incorrect choices of the screen options (Bookends will wipe all options off the screen and will not give you a chance to change your mind after you make the choice). Bookends is limited but useful with bibliographies of less than 200 references, and you will find little use for it in an ABE/GED setting.

TITLE: Apple Writer II

VER: 3.3
COMPANY: Apple Computers
20525 Mariani Avenue
Cupertino, CA 95014
(408) 996-1010
SUBJECT AREA: Utility LEVEL: All
PROGRAM TYPE: Tool PRICE: 123.00
AVAILABLE FOR: Apple II family
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Apple Writer is a very easy to use word processor; however, it is Not a screen oriented program (as are Appleworks and WordStar). As a result, it is impossible to "see" what the final product will look like without actually printing a hard copy out. It does have those standard features most people look for in a word processor (centering, boldface, underlining, etc.).

TITLE: The Ifs & Thens of Programming

DATE: 1984 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: No
COMMENTS: This is a "how to" on programming. The manual includes support materials for teacher, including transparencies for classroom use. This package is appropriate for intermediate computer science classes at adult levels, but it is not appropriate for use in ABE or GED classrooms.

TITLE: Intro to Applesoft Basic, Vol. 1

DATE: 1981 VER: 1.1
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL:
PROGRAM TYPE: Tool PRICE: 51.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: This disk is designed to be used in the classroom to teach students how to program in Applesoft Basic. This is not appropriate for instruction in traditional ABE/GED classes. Teachers who wish to teach themselves how to program might want to consider this disk.

TITLE: Beginning Applesoft Basic

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: The goal of this disk is to provide an instruction format for teachers of Applesoft programming. It is assumed that the teacher understands programming; however, students may have little computer knowledge. This type of instruction is not pertinent in traditional ABE/GED classes, but learning to program should be helpful for ABE/GED teacners -- if they are involved in programs that use computers. This material is not designed for individuals to teach themselves how to program in Applesoft Basic and requires teacher instruction.

TITLE: Introduction to Applesoft Basic

DATE: 1982
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 38.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This package is not useful for ABE/GED situations but it might be useful for teachers who want to learn how to program in BASIC. The uses for BASIC programming, however, are limited, and teachers wishing to learn a programming language should look at PASCAL or Pilot for Apple.

TITLE: Intro to Logo for Teachers

DATE: 1983 VER: 1.2
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: These programs are designed to be used by a teacher or facilitator in instructing an introductory class in Apple LOGO Language. The teacher's knowledge of the Apple II and Apple LOGO is assumed. This type of instruction is not pertinent for ABE/GED classes, but teachers may wish to participate in such classes to increase their own knowledge of the Apple II and Apple LOGO.

TITLE: Intro to Pascal for Teachers

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 65.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This package is designed for use by instructors of the Pascal Computer Language. Advanced knowledge of Pascal is assumed. This is not pertinent to ABE/GED classrooms.

TITLE: Apple Assembly Language

DATE: 1983
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: The programs on this disk are designed for use in classes on assembly language. In-depth knowledge of programming is assumed. This disk is not recommended for ABE/GED classes.

TITLE: Applying the Apple II, Vol. 1

DATE: 1980 VER: 1.1
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: The purpose of this disk is to give teachers and administrators a general idea of the different uses an Apple II can be put to in the classroom. Each item on the menu provides one example of how the computer can be used in that particular area. This disk is not useful for instruction in ABE/GED settings, nor does it seem overly informative for teachers/administrators. It is very basic and offers nothing that cannot be gained by using software designed for classroom instruction.

TITLE: Programmer's Aid, Vol. 1

DATE: 1983 COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This package is designed to assist persons wishing to develop new computer programs. Knowledge of programming in Applesoft BASIC is assumed. These programs would be of little use to most ABE/GED classes unless the teacher is an experienced programmer.

TITLE: Programmer's Aid, Vol. 2

DATE: 1982 VER: 1.3
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 48.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This is a package designed for people interested in programming and is inappropriate for use in an ABE/GED classroom.

TITLE: The Electronic Spreadsheet

DATE: 1983 VER: 1.2
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: The goal of this package is to teach students to use spreadsheets on Apple computers in business education courses. This is not pertinent instruction for students in traditional ABE/GED programs.

TITLE: Mouse in the Maze

DATE: 1983
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: GED
PROGRAM TYPE: Tool PRICE: 43.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: This is a package designed to use with students learning to program in BASIC. This is not appropriate for ABE/GED settings.

TITLE: The Friendly Computer

DATE: 1984
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: ABE/GED
PROGRAM TYPE: Tool PRICE: 48.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: These programs were obviously designed for children. Graphics are top-quality but oriented toward very young students. The goal of these programs is to familiarize students with the computer. Specific programs deal with the keyboard, computer terms, and picture drawing with the computer.

TITLE: Extension to Applesoft Basic

DATE: 1983 VER: 1.2
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 43.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This is a package geared towards programmers, but it is inappropriate for use in a traditional ABE/GED setting.

TITLE: The 3 R's of Microcomputing

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 36.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This is a computer literacy package geared towards familiarizing teachers with the language and concepts of computers. Not appropriate for ABE/GED classes.

TITLE: Processing Words

COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 36.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Unavailable
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: Part of a series of computer literacy instruction modules developed by MECC. Although the program looks useful for a computer literacy class, it would be inappropriate for ABE/GED.

TITLE: Structured Design & Programming

DATE: 1984 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: A programming module that is not appropriate for ABE/GED classes.

TITLE: Applesoft Training Materials

DATE: 1981 VER: 1.3
COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tool PRICE: 48.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This disk is designed for instruction or demonstration in programming using the Apple II. The instructor will need a knowledge of programming, and the learners should have a basic knowledge of programming as well. This disk is not recommended for ABE/GED use unless the teacher is a computer buff who wishes to teach some programming.

TITLE: The Bank Street Writer

DATE: 1982
COMPANY: Scholastic, Inc.
900 Sylvan Avenue
Englewood Cliffs, NJ 07632
SUBJECT AREA: Computer Literacy LEVEL: NA
PROGRAM TYPE: Tool PRICE: 65.00
AVAILABLE FOR: Apple/IBM/Atari/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: This menu-driven program is the easiest to use fully functioning word processor available. The on-screen prompts are always available and clear. Although it is not as versatile as the full-powered word processors (like WordStar), its ease of use makes it a winner for use with students of all ages.

TITLE: How To Program In Basic

COMPANY: MECC
SUBJECT AREA: Computer Literacy LEVEL: Teacher
PROGRAM TYPE: Tutorial PRICE: Not Available
AVAILABLE FOR: Apple MANUAL: Not Available
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: The purpose of this disk is to provide tutorials for programming in BASIC computer language. Teachers or administrators may wish to make their own educationalprograms in which case these programs might come in handy. This type of program would not be pertinent for instruction in traditional ABE/GED.

LANGUAGE ARTS

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PREPOSITIONS

PREPOSITIONS

TITLE: Spelling Improvement Series (15 Disks)

DATE: 1982
COMPANY: BLS (Random House)
400 Hahn Road
Westminister MD 21157
(800)638-6460
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: Unavailable
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This series is a computer adaptation of the Sargent-Welch Autotutor program. Each diskette contains an extensive lesson on the subject, a short summary, and a mastery test, complete with reinforcing remarks. The approach is traditional, but very interactive. The only problem I found with the program is that it reinforces recognition of correct words but never asks students to build words.

TITLE: Punctuation I & II

DATE: 1983
COMPANY: Educational Activities, Inc.
P.O. Box 392
Freeport, NY 11520
(800) 645-3739
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: 59.95
AVAILABLE FOR: Apple/Commodore/TRS/Atari/PET
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a very good example of a tutorial program, that is, it walks the student through the use of various kinds of punctuation using clear examples of different types of sentences, graphics, and sound. There are two diskettes in this package (sold separately): one covers end-of-sentence punctuation and the second covers the usage of commas. Each diskette comes with reproducible activity masters for teachers to use as additional practice. Minimum reading level is 3.0. This package will work with adult students despite the graphics and sound (sound may be turned off).

TITLE: Basic Skills Grammar Series

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: 765.00 (Set)
AVAILABLE FOR: Texas Instruments 99(TI 99)
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual reviews not done. See write-up on PLATO system in Introduction

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TITLE: Basic Skills Reading Series

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: 1259.00 (Set)
AVAILABLE FOR: Texas Instruments 99
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual reviews not done. See write-up on PLATO system in Introduction.

TITLE: High School Reading Skills Series

COMPANY: Control Data Publishing, Inc.
(800)233-3784
SUBJECT AREA: Language Arts LEVEL: GED
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE:405.00 (Set) AVAILABLE FOR: TI
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO in Introduction.

TITLE: High School Writing Skills Series

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Language Arts LEVEL: GED
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: 360.00 (Set) AVAILABLE FOR: TI
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual write-up not done. See section on PLATO systems in Introduction.

TITLE: Reading Readiness

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: Not Available
AVAILABLE FOR: Apple/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Phrase Reading I

DATE: 1983
COMPANY: Creative Curriculum, Inc.
15632 Producer Lane
Hunnington Beach CA 92649
(914) 898-2658
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: Unavailable
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Poor
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a fairly comprehensive reading skills program designed to improve comprehension and speed. Each lesson is divided into a vocabulary introduction, an eye movement practice, phrase reading practice, and finally, a clocked suspense story. The student can speed up or slow down the speed during the lesson, and the stories are very interesting. Good for use with adult students.

TITLE: Word Attack

DATE: 1983
COMPANY: Davidson & Associates, Inc.
6069 Groveoak Place, #12
Pancho Palas Verdes CA 90274
(800) 556-6141
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice Game PRICE: 49.95
AVAILABLE FOR: Apple/IBM/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Word Attack is a drill and practice package with an arcade game attached as a bonus. It is a vocabulary program which holds 675 words and has the ability for the teacher to add new word lists. This is a good clean program for vocabulary building and is perfectly appropriate for adult students in an ABE/GED setting.

TITLE: Speed Reader II

DATE: 1985 VER: 1.00
COMPANY: Davidson & Associates, Inc.
6069 Groveoak Place, #12
Rancho Palos Verdes CA 90274
(800) 556-6141
SUBJECT AREA: Language Arts LEVEL: GED
PROGRAM TYPE: Drill & Practice PRICE: 69.95
AVAILABLE FOR: Apple MacIntosh/TRS/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This program uses the power and the ease of use found in the Apple MacIntosh computer to great advantage with speed reading exercises. Not only are the exercises fun and effective, there is an adult "feel" to the program. The student is never talked down to, and many of the reading passages concern the speed reading theory, continually reinforcing the drill and practice. The program comes complete with an easy-to-use editor that allows teachers and students to write their own exercises. This program is also available for TRS and Commodore machines.

TITLE: Spell It

DATE: 1984
COMPANY: Davidson & Associates, Inc.
6069 Groveoak Place, #12
Rancho Palas Verdes CA 90274
(800) 556-6141
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice/Game PRICE: 49.95
AVAILABLE FOR: Apple/IBM/Commodore
AUXILLARY EQUIPMENT: Joystick Optional
MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: This package reviews 1000 of the most commonly misspelled words in the English language and the rules that go with them in a drill and practice/game format. There are several program options that one may choose to study, including an arcade game, using the word in a sentence, and a word-scramble game. If spelling is a problem with your adult students, this package would probably work well.

TITLE: Quotation Marks

DATE: 1983
COMPANY: Educational Activities, Inc.
P.O. Box 392
Freeport NY 11520
(800) 645-3739
SUBJECT AREA: Language Arts LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 59.95
AVAILABLE FOR: Apple/TRS/Commodore/Atari
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This package contains one diskette (6 lessons), a teacher's guide, and several activity masters. The six lessons are in an interactive tutorial format which allows maximum teaching-learning with computers. This package would work well as a supplement to Educational Activities' Punctuation I and II series. Appropriate and useful for adults in ABE/GED settings.

TITLE: Capitalization

DATE: 1984
COMPANY: Educational Activities, Inc.
P.O. Box 392
Freeport NY 11520
(800) 645-3739
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: 59.95
AVAILABLE FOR: Apple/TRS/Atari/Commodore/PET
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a good tutorial-drill and practice on the use of capitalization. This program is fairly comprehensive, giving rules, good explanations, and clear examples. This package would be very good with adult students in an ABE/GED setting, but if used in a classroom setting with more than one person present, it may be helpful to turn the sound off; fortunately that is an option for teachers. Manual is clear and supportive and provides reproducible hand-outs for extra drill and practice.

TITLE: English Basics

DATE: 1980
COMPANY: Educational Activities, Inc.
P.O. Box 392
Freeport NY 11502
(800) 645-3739
SUBJECT AREA: Language Arts LEVEL: GED
PROGRAM TYPE: Drill & Practice
PRICE: 199.00 (Set of 5 diskettes & Manual)
AVAILABLE FOR: Apple/TRS 80/Atari/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This series of five diskettes covers basic English parts of speech in a drill and practice format. These programs would do well used in conjunction with regular classroom instruction and/or workbook exercises. Overall appropriateness for use with adults is good even though the program is fairly slow, and quicker students may get impatient with having to wait for screen displays to change.

TITLE: What Was That Word?

DATE: 1981
COMPANY: Edutek Corporation
P.O. Box 11354
Palo Alto CA 94306
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Game PRICE: Unavailable
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: NA
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: This is a game format where words are flashed on the screen and the student types the word back onto the screen. It can get very fast if typing skills are good and the words get pretty tough for early readers. For right answers, the player gets fifty play bucks and the game will continue up to one-thousand play bucks. This program has been used successfully with adults in early skills levels to get them started on the computer.

TITLE: Antonyms/Synonyms

DATE: 1982
COMPANY: Harltey Courseware, Inc.
P.O. Box 431
Dimondale MI 48821
(517) 646-6458
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: 39.95 AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Antonyms/Synonyms is a tutorial combined with drill and practice in the identification and usage of "opposites" and "alikes." It is cleanly programmed, covers a number of grade levels, is self-paced by student, uses good feedback and no "cute" graphics, and has teacher options for modifying existing or creating new word lists.

TITLE: Who-What-Where-When-Why

DATE: 1982 VER: 4.13
COMPANY: Hartley Courseware, Inc.
133 Bridge Street
Dimondale MI 48821
(517) 646-6458
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: 35.95
AVAILABLE FOR: Apple/IBM
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: The programs on this disk offer drill and practice using the words who, what, when, where, and why. If adults need help in this area, this package should prove useful. The programs are very mature, if not overly so. Graphics, color, sound are minimal. What the programs do offer is alot of drill and practice in choosing the appropriate word for a given situation. The lessons on this disk may be modified by the teacher, which is a plus and student records may also be stored on the disk. This program should prove to be useful for adult readers at very basic levels.

TITLE: Roots/Affixes

DATE: 1982
COMPANY: Hartley Courseware, Inc.
P.O. Box 431
Dimondale MI 48821
(517) 646-6458
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: 39.95
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This disk contains lessons on roots, prefixes, and suffixes for levels 3 to 8. It is a basic drill and practice program format to give students practice combined with a tutorial to teach what prefixes, roots, and suffixes are and how they are used. This will be useful with adults and is highly appropriate.

TITLE: Verbs

DATE: 1983 VER: 4.13.84
COMPANY: Hartley Courseware, Inc.
P.O. Box 431
Dimondale MI 48821
(517) 646-6458
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice PRICE: 32.95
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This package provides drill and practice on verb agreement, tense, and identification for levels 3 through 8. It is a good program to use with adults as it does not use cute graphics, allows the student to move at his/her own pace, and uses appropriate feedback. As with most Hartley materials, there is a teacher option to create new word lists for additional practice.

TITLE: Adjectives

DATE: 1984 VER: 03.09.84
COMPANY: Hartley Courseware, Inc.
P.O. Box 431
Dimondale MI 48821
(517) 646-6458
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: 39.95
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This diskette contains nine lessons on adjectives, the final lesson being a complete review. It is in a tutorial format that leads the student through each lesson with explanations and examples. This package contains teacher options which allow word lists to be modified and new ones created in the same format.

TITLE: Fact or Opinion

DATE: 1984
COMPANY: Hartley Courseware, Inc.
Box 419
Dimondale MI 48821
(517) 646-6458
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: 39.95
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
COMMENTS: As the title implies, Fact or Opinion gives the student practice in discriminating between fact or opinion. The program gives strategies for distinguishing between fact and opinion and individual statements are backed up by clues if the wrong answer is chosen. This seems to be a well developed program, stressing important skills for any level.

TITLE: Word Families

DATE: 1983 VER: 11.04
COMPANY: Hartley Courseware, Inc.
133 Bridge Street
Dimondale MI 48821
(517) 646-6458
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: 29.95
AVAILABLE FOR: Apple/IBM
AUXILLARY EQUIPMENT: none MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: The programs on this disk offer the student alot of drill and practice in manipulating vowels and consonants in making words. The programs present a word with a vowel or consonant underlined; then, several additional vowels or consonants are presented. The student must choose the proper letters that may be substituted for the underlined letters to form new words. Reinforcement for 15 correct responses is a clown's face appearing on the screen, which may bother some adult learners who might be offended with this childish reinforcer. This disk is probably one that ABE programs should consider. The lessons seem appropriate and the teacher can add student records and new word lists to the disk.

TITLE: Word Herd: Sound Alikes

DATE: 1984
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: Unavailable
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is one of MECC's best programs. The tutorials work through twelve groups of homophones by definition and then by context. After each word and its definition is introduced, a high resolution graphic nmemonic aid is presented. After the words are illustrated in context, extensions and expansions of the words are discussed. The graphics are interesting, the response time is good, and is, all-in-all, a joy to work with. This program does require some basic keyboard skills. Program includes student progress report for up to 45 students. Very appropriate for adult students.

TITLE: Word Herd: Look Alikes

COMPANY: MECC

SUBJECT AREA: Language Arts LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: Unavailable
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is an extension of the Word Herd: Sound Alikes program. The same format is used of presenting definitions, contexts, and expanded meanings. And, like the original, this program is a combination of sound pedagogy and clear programming.

TITLE: Elementary, Vol.2: Language Arts

DATE: 1980 VER: 3.2
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice/Utility PRICE: 46.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Printer MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a language arts package that has programs for drill and practice on spelling. Teachers must supply a data disk with word lists geared to the needs of their students and this allows for great flexibility and range. There is also a spelling game, a keyboarding lesson, and several teacher utilities included. This would be a good disk to use with adult students to help make learning to spell and recognizing difficult words more fun.

TITLE: Elementary Language Arts, Vol. 5

VER: 1.7
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: Programs on this disk teach students to identify and use several different prefixes. In the review sections, students are rewarded for correct answers with pieces of graphic puzzles which eventually form a dragon and a robot. This disk would not seem suitable for ABE/GED classes for several reasons: (1) the entire disk covers only five prefixes, (2) the graphics seem immature for adults, and (3) the programs are very slow to work through.

TITLE: Spelling, Vol. 1: Primary

DATE: 1980 VER: 3.0
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice PRICE: 44.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This package contains twenty drill and practice programs for spelling. An incomplete sentence is given on screen and the student must fill in the blank with a correctly spelled word. There is also a time bar which runs along the bottom of the screen to measure how long it takes to pick each one. This might be a problem for adults who tend to feel more intimidated by timed tests than children do. Otherwise, this is a perfectly acceptable package to use with adults, but it will be helpful for any user to have some typing or keyboarding experience as there is a good bit of typing to be done. Support manual includes instructions for teachers to change or add word lists.

TITLE: Special Needs: Spelling

DATE: 1981
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice PRICE: 44.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a very basic drill and practice program that has been modified to enable motor-impaired students to participate. The words supplied are quite basic, but there is a teacher modification option which allows word lists to be changed.

TITLE: Spelling, Vol. 2: Advanced

DATE: 1981 VER: 3.0
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: GED
PROGRAM TYPE: Drill & Practice PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is the advanced spelling practice package from MECC. Like the Volume 1 package, this program has drill and practice exercises on spelling, but the words are much more difficult. This is good for use with adult students, but any user would benefit from typing skills with this program. Like Volume 1 also, adult users may find the time bar intimidating. Teachers may alter or add words and sentences with the aid of accompanying manual.

TITLE: Elementary, Vol. 7

DATE: 1981 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Drill & Practice/Game PRICE: 46.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This package is inappropriate for use with adult students. The childish graphics such as stickmen, cats, funny faces, and spaceships are just not appropriate for adults and the material covered is perhaps too basic for even beginning adult students.

TITLE: Elementary, Vol.11: Language Arts

DATE: 1981 VER: 1.1
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: 43.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Phonet is a set of drill and practice exercises covering several phonetic areas. There are no fireworks here, but there is some good solid practice work that any ABE student could use. Simple typing skills are needed.

TITLE: Elementary,Vol. 12: Simulations

DATE: 1980 VER: 2.0
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Drill & Practice/Game PRICE: 43.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Printer MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: The programs on this disk attempt to teach spelling through various types of word games. Hangman requires the student to guess the letters in a mystery word. Scramble requires the student to make a word out of "scrambled" letters. Spell gives the student words to remember, then asks student to spell the word after it goes off the screen. Worder generates a word puzzle in which the student must locate words from a word list. This would work okay with adults, although they might find these particular games somewhat childish.

TITLE: English: Parts of Speech

DATE: 1983 VER: 1.4
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: GED
PROGRAM TYPE: Drill & Practice PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This English package will provide a good review for students before taking the GED test. It gives drill and practice on many parts of speech, and it progressively builds through each individual lesson. If the wrong answer is given, the program will tell you the correct answer, then display the sentence with all parts of speech previously studied labeled. This would be an excellent program to use with adults in an ABE/GED setting.

TITLE: Writing a Narrative

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 43.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: These programs offer assistance to students wishing to write narratives. Basically, what the programs do is stimulate thought and generate ideas and special vocabulary words for the student's chosen topic. This only gets the students into thinking about a topic and ordering episodes. It is not a comprehensive writing program. It does not even provide space for the student to write his own narrative. Still, the program is excellent for the beginning process in writing narratives.

TITLE: Writing a Character Sketch

DATE: 1983 VER: 1.1
COMPANY: MECC
SUBJECT AREA: Language Arts LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 43.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Printer MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This writing tutorial walks students through a brief writing exercise by asking questions and giving options as they proceed. Very useful and helpful to GED students as they study writing, grammar, spelling, etc. This could be used in conjunction with the MECC program reviewed previously, Writing a Narrative.

TITLE: Cloze Plus: Context Analysis Program

DATE: 1983
COMPANY: Milliken Publishing Co.
1100 Research Blvd.
St. Louis MO 63132
(314) 991-4220
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice
PRICE: $425 (Set of 12 diskettes and Manual)
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a reading program that seeks to improve comprehension and vocabulary through structured context analysis activities. The structured cloze activities require students to use context to complete syntax and to demonstrate comprehension. Each diskette (4/level -- 3 levels, grades 3-8) contains five reading topics. In each exercise, selected words are left blank, and the student must either choose from the variety of choices given or type in a word of his/her own choosing. Clues are offered after misses. After each exercise, the skills worked on are listed for feedback purposes. This is a very good program to use with adults and contains a teacher option selection in order to modify programs or create new programs.

TITLE: Language

DATE: 1980
COMPANY: Milliken Publishing Co.
1100 Research Blvd.
St. Louis MO 63132
(314) 991-4220
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice PRICE: 75.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: The most basic and one of the most flexible programs we have looked at, this program starts with letter recognition and proceeds to fairly tough alphabetizing exercises. There is the problem of the keyboard which could deter non-readers, but the excitement and challenge of working on the computer itself should make up for any frustration by lack of keyboarding experience.

TITLE: Missing Links

DATE: 1983
COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Game PRICE: 39.95
AVAILABLE FOR: Apple/IBM/TRS/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: Missing Links is a fill-in-the-blanks game using passages from literature. There are several formats to use in choosing which letters to omit and examples are given. Educational objectives are listed as "to strengthen the inborn language sense we all use in reading and conversation and improving reading comprehension, spelling, vocabulary, grammar, punctuation, and sentence structure." My argument against this program is that reading comprehension, vocabulary, spelling, and sentence structure have to be good in order to play it. It might be helpful in studying writing with adults in a GED setting, but I thing actual practice is better . . . and cheaper.

TITLE: Odd One Out

DATE: 1983
COMPANY: Sunburst Communications
39 Washington Avenue
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: 55.00
AVAILABLE FOR: Apple/Commodore
AUXILLARY EQUIPMENT: Color Monitor MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This is a symbol discrimination program, a variation of the old "which one is different" game. The symbols include words, pictures, numbers, letters, and mathematical equations. The pictures have low resolution and will be impossible to decipher on poor quality monitors. The selection process is awkward -- this kind of program would benefit greatly from a touch sensitive screen. This program has been used in an ABE setting successfully as the first computer experience, and, in that sense, is probably beneficial.

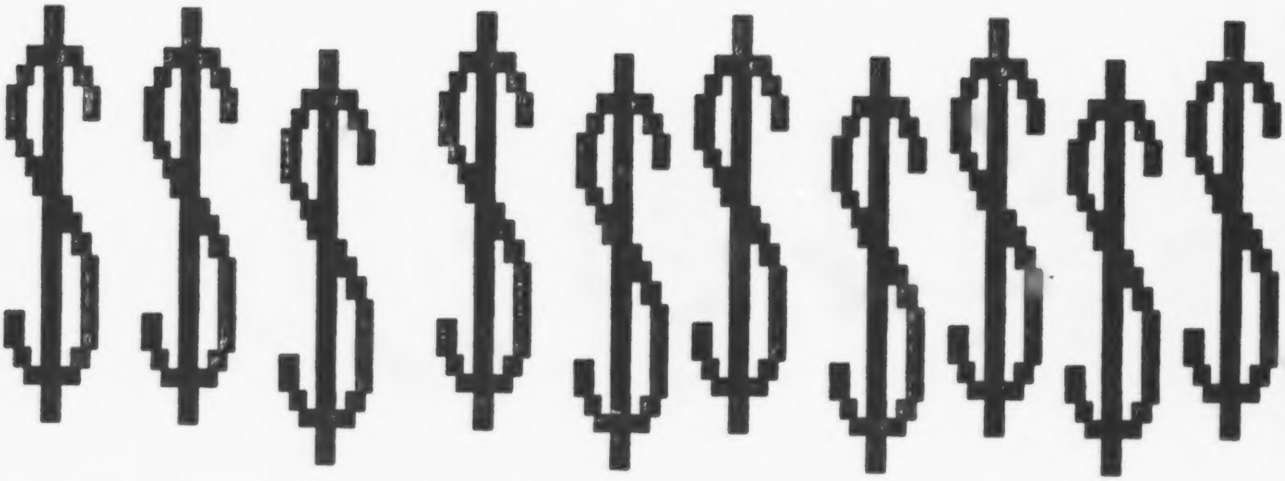
TITLE: The Great Gilly Hopkins

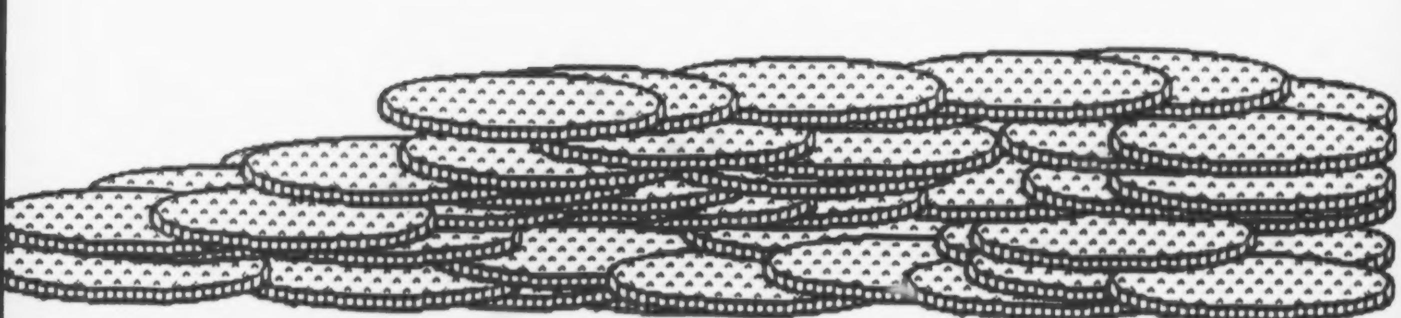
COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Language Arts LEVEL: ABE
PROGRAM TYPE: Tutorial/Game PRICE: 25.00
AVAILABLE FOR: Apple/TRS 80/PET
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This disk contains several programs which seek to enhance and improve comprehension and vocabulary by having students read a book and then answer questions or play various games using content matter from the book. The usefulness of this package will depend largely on whether the learner can appreciate The Great Gilly Hopkins or not. The heroine of the book is an 11 year old girl who encounters her third foster home experience. The story is told through the girl's eyes and would seem to appeal to younger readers. Also, it seems programs contain very few questions, and the book is not covered extensively at all.

TITLE: Wally's Word Works

DATE: 1985
COMPANY: Sunburst Communications, Inc.
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Language Arts LEVEL: ABE/GED
PROGRAM TYPE: Game PRICE: 65.00
AVAILABLE FOR: Apple/Atari/Commodore
AUXILLARY EQUIPMENT: Joy Sticks Helpful MANUAL: Good
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: This program uses the format of a video action game to teach the parts of speech. There are elementary, junior high, and high school levels of the game. Although the game can be played using the arrow keys of the computer, a joystick would make playing very much more enjoyable. The strength of the program is that it does not rely on keyboard skills. It may be considered somewhat "cute" for adults, but then so is Frogger.

LIFE SKILLS





TITLE: Life Coping Skills

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Life Skills LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: 295.00 (Set)
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO in Introduction.

TITLE: Health Maintenance, Vol. 1

DATE: 1982 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Life Skills LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This diskette reviews basic facts about energy needs, shows risk of heart attack based on user imput, and addresses poisons and toxicity. This is definitely interesting but is inappropriate for use with ABE/GED students. There is also a Volume 2 -- it, too, it interesting, but it has little relevance for an ABE/GED class.

TITLE: Business, Vol. 1

DATE: 1980
COMPANY: MECC
SUBJECT AREA: Life Skills LEVEL: GED
PROGRAM TYPE: Drill & Practice/Simulation
PRICE: 45.00 AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: This series of business simulations has only limited use in GED situations but students can explore areas that will help them improve their life skills. The loan/amortization program is especially popular with all levels of adults.

TITLE: Business, Vol. 3: Accounting

DATE: 1984 VER: 1.6
COMPANY: MECC
SUBJECT AREA: Life Skills LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: 2 Drives Needed MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: This is for use in an intermediate accounting course with students who already know the rudiments of accounting. The four systems covered are general ledger, accounts payable, accounts receivable, and inventory control. Really not appropriate for ABE/GED, but it could be used in informal class experiences or as structured class experience. Student manual/answer key is available as well as teacher manual.

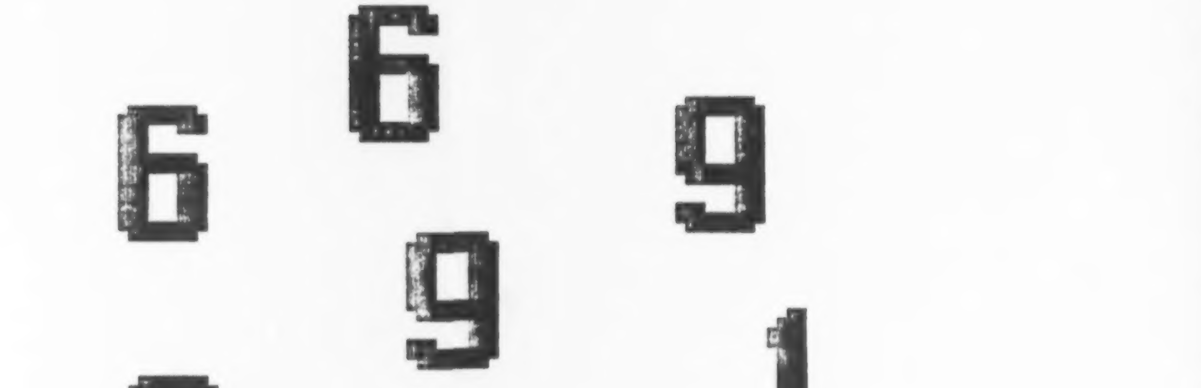
TITLE: Nutrition, Vol. 1

DATE: 1982 VER: 1.2
COMPANY: MECC
SUBJECT AREA: Life Skills LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 46.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Printer MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: This package can be used to compute the nutrient levels of food eaten in one day. It analyzes content in terms of calories, fats, carbohydrates, and RDA requirements for iron, calcium, protein, Vitamins A and C. Food catalog containing 598 food listings is included. This would be useful for people who are learning basic food/nutrition information, and it is fun for anyone to analyze their diet (or non-diet). This is a fun program to use, might be useful in a high school home economics class, but is probably not useful in traditional ABE/GED classes. In less non-traditional classes, the teachers might want to work on life skills projects such as creating balanced meal plans (especially good for teenagers), dieting, etc.

TITLE: Nutrition, Vol. 2

DATE: 1983 VER: 1.2
COMPANY: MECC
SUBJECT AREA: Life Skills LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Printer MANUAL: Good
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: "Lean" allows user to imput daily food intake and exercise according to codes supplied in manual (just like Volume 1). The user receives a print-out of this information, his/her daily nutritional needs, and whether or not they can gain or lose weight according to this information. "Recipe" allows one to enter the ingredients of a recipe and find out the nutritional value and caloric content of a recipe. This would be a great program for a counselor or teacher to use for students with weight control problems, but it is really not applicable for traditional ABE/GED settings. If Life Skills instruction is part of the curriculum, however, this might be a really fine program to include in your curriculum.

MATH



TITLE: Amazer Math

DATE: 1982
COMPANY: American Educational Software
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice/Game PRICE:
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Poor
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: This is a math drill and practice which lets you move through a maze as you get correct answers to math problems. Skill level is variable and all students will probably find this a fun program to use.

TITLE: Graphing & Interpreting Graphs

DATE: 1983 VER: 3.3
COMPANY: Conduit
P.O. Box 388
Iowa City IA 52244
(319) 353-5789

SUBJECT AREA: Math LEVEL: Post-GED

PROGRAM TYPE: Drill & Practice PRICE:

AVAILABLE FOR: Apple

AUXILLARY EQUIPMENT: None MANUAL: NA

APPROPRIATENESS: Good RECOMMENDATION: No

Comments: This is another good math package that is too high-powered for GED students. This covers concepts not usually taught and not needed for GED, but it may be useful for early college mathematics. Not recommended for ABE/GED settings.

TITLE: Secondary & Post-Secondary Math

DATE: 1981 VER: 3.3
COMPANY: Conduit
P.O. Box 388
Iowa City IA 52244
(319) 353-5789
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Drill & Practice PRICE:Unavailable
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: This math package is too much for the GED classroom. It covers concepts of trigonometry, advanced Algebra, and graphing, things not needed on the GED. It might work well for college students or in an advanced high school mathematics curriculum, but it is not recommended for ABE/GED classrooms.

TITLE: Basic Skills Math Series

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: 854.00 (Set)
AVAILABLE FOR: Texas Instruments/IBM
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. Please see write-up on PLATO system in Introduction.

TITLE: Basic Number Facts

COMPANY: Control Data Publishing, Inc.
(800) 233-378
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Tutorial PRICE: 39.95
AVAILABLE FOR: Apple/Atari/TI/IBM
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Whole Numbers

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: 39.95
AVAILABLE FOR: Apple/Atari/TI/IBM
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Decimals

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Tutorial PRICE: 39.95
AVAILABLE FOR: Apple/Atari/IBM/TI
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Fractions

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Tutorial/Game PRICE: 39.95
AVAILABLE FOR: Apple/Atari/IBM/TI
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Elementary Algebra

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 405.00 (Set)
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: High School Math Series

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 360.00 (Set)
AVAILABLE FOR: IBM/TI
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Elementary Math Games

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Tutorial PRICE: 49.95
AVAILABLE FOR: Commodore
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Advanced Elementary Math Games

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Games PRICE: 59.95
AVAILABLE FOR: Commodore
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Ratio and Proportion

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 39.95
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Averages: Mode, Median,Mean

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 39.95
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Percent Fundamentals

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 39.95
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Area and Perimeter

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: 39.95 AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Probability

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 39.95
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Geometry and Measurement

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: 49.95 AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO sytem in Introduction.

TITLE: Fraction Action

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: 49.95 AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO system in Introduction.

TITLE: Elementary Math Mixer

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice/Game
PRICE: 49.95 AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: No individual review done. See write-up on PLATO system in Introduction.

TITLE: Mathonaut

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Game PRICE: Not Available
AVAILABLE FOR: Apple/IBM/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: No individual review done. See write-up on PLATO system in Introduction.

TITLE: Math Blaster

DATE: 1983
COMPANY: Davidson & Associates, Inc.
6069 Groveoak Place, #12
Rancho Palas Verdes CA 90274
(800) 566-6141
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice/Game
PRICE: 49.95
AVAILABLE FOR: Apple/IBM/Commodore
AUXILLARY EQUIPMENT: Joystick Optional
MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: This action game/drill and practice program provides pain-free learning of basic math facts. The material is presented in a number of ways including straight-forward drill and practice as well as the game, Math Blaster. The game itself is both fun and challenging. The program is flexible and allows for teacher developed exercises. All-in-all, this is a very good program and would work well with adult students.

TITLE: Meteor Multiplication

DATE: 1982
COMPANY: DLM
One DLM Park
Allen TX 75002
(800) 442-4711
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Game PRICE: 44.00
AVAILABLE FOR: Apple/Atari/Commodore/IBM
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a multiplication drill and practice game which is challenging and fun! Your spaceship fires correct answers at approaching meteors (multiplication problems). Speed can be adjusted as can skill level of problems. This is good fun and would be good for adults at ABE/GED levels.

TITLE: Basic Math Competency Skill Bldg

DATE: 1984
COMPANY: Educational Activities, Inc.
P.O. Box 392
Freeport NY 11520
(800) 645-3739
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: 59.95
AVAILABLE FOR: Apple/TRS/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This set of eight interactive tutorial diskettes provide a comprehensive range of basic math skills, including rounding, whole number functions, fractions, decimals, percents, graphs, and measuring. As well as teaching concepts, this package gives practice problems to reinforce learning and provides a quiz as feedback for both student and teacher on each unit. Each diskette contains a management system so that grades and/or progress can be kept up with by the teacher. Documentation is good, providing teachers with clear learning objectives for each diskette.

TITLE: Introduction to Decimals

DATE: 1980
COMPANY: Educational Activities, Inc.
P.O. Box 392
Freeport NY 11520
(800) 645-3739
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: 59.95
AVAILABLE FOR: Apple/TRS/Atari/Commodore/PET
AUXILLARY EQUIPMENT: None MANUAL: Unavailable
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is drill and practice at its apex. The student gets no explanation or examples, so unless students are to be taught concepts first, this program is useless. For practice, this is good. It gives several levels of practice for addition, subtraction, multiplication, and division, and provides a teacher management package to boot (for $10 extra, included in the above listed price). Adults will not be offended or put-off by this program, but they may get bored with the repetitive nature of the practice.

TITLE: Money! Money!

COMPANY: Hartley Courseware, Inc.
133 Bridge Street
Dimondale MI 48821
(517) 646-6458
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: 39.95
AVAILABLE FOR: Apple/IBM
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This program works on basic subtraction and needs a second grade reading level in order for students to work independently. Money in all forms is used as the basis for the subtraction drill and practice, although the numbers only go up to $20.00. This is a fairly good program for basic skills building, but it is slow and some students may get bored pretty quickly.

TITLE: Intergers/Equations I & II

DATE: 1983

COMPANY: Hartley Courseware, Inc.
P.O. Box 431
Dimondale MI 48821
(517) 646-6458
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice PRICE: 39.95
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Intergers is a drill and practice package which works with functions of whole numbers. Equations I and II takes a student through lower level algebraic properties of equations. This is a good package to use with adults and is recommended for its good use of screen displays, self-paced activities, and good use of feedback to students.

TITLE: Equation Solving II

DATE: 1985
COMPANY: Magna Systems Inc.
West County Line 95
Barrington IL 60010
(312) 382-6477
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial
PRICE: 299.00 (Set)
AVAILABLE FOR: Apple (Other Machines soon)
AUXILLARY EQUIPMENT: None MANUAL: Unavailable
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Following Equation-Solving I, this package provides a self-paced tutorial suitable for GED students in advanced equation solving. The user deals with like terms in equations, fractions, and applied problem-solving. The opportunity for a quiz is also given, as in Volume 1. Again, these two programs are highly suitable for adult students at the GED level.

TITLE: Ratio & Proportion

DATE: 1985
COMPANY: Magna Systems Inc.
West County Line 95
Barrington IL 60010
(312) 382-6477
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 299.00 (Set)
AVAILABLE FOR: Apple (Other Machines soon)
AUXILLARY EQUIPMENT: None MANUAL: Unavailable
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Ratio and Proportion is an introduction to these concepts and provides a self-paced tutorial lesson on each, plus a quiz over the total lesson. This package would be good for use with adult students as it is relatively fast, self-explanatory, gives good feedback, and allows individuals to work at their own pace. It would probably best be used in conjunction with some teacher introduction to the concepts prior to working the lessons.

TITLE: Equation Solving I

DATE: 1985
COMPANY: Magna Systems Inc.
West County Line 95
Barrington IL 60010
(312) 382-6477
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 299.00 (Set)
AVAILABLE FOR: Apple (Others Possible)
AUXILLARY EQUIPMENT: None MANUAL: Unavailable
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This diskette provides a step-by-step introduction and tutorial for students in algebraic equation-solving. It introduces basic concepts and explains how to perform the various operations needed to solve equations. This is a good program for use with adult students as it is self-paced, lacks "cute" graphics, and gives good feedback to users. This could be very useful for individual instruction in a GED classroom.

TITLE: Circus Math

DATE: 1984
COMPANY: MECC
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice/Game PRICE: Unavailable
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This is a very flexible drill and practice program on whole number addition in both the verticle and horizontal formats. The range of difficulty is from very easy to almost impossible as the student races against a swift elephant. Cute graphics may put off some adults, but they can be turned off by the instructor if that is preferred.

TITLE: Estimation

DATE: 1984 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Drill & Practice PRICE: Unavailable
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This teacher-centered courseware was designed to give individuals drill and practice on areas of mathematical estimation in addition to regular classroom instruction. This does not teach any of the fundamental skills of estimation but only provides a way to practice. "Number Line" and "Estimate" both are good programs; "Heartbeat" could have been left off; "Shopping" gives good practice in estimation of multiplying and addition. This program is applicable to GED students and appropriate for adults. Manual includes student worksheets and teacher support materials.

TITLE: Addition Logician

DATE: 1984
COMPANY: MECC
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice/Game PRICE: Unavailable
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Like its companion disk, Circus Math, Addition Logician rewards a series of drill and practice lessons with games. These games, by the way, are much more interesting for adults than those on Circus Math. Again, there is a full management system and teacher-defined flexibility to the program.

TITLE: Elementary, Vol.1: Mathematics

DATE: 1980 VER: 3.4
COMPANY: MECC
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Drill & Practice/Game
PRICE: 45.00 AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: There are a variety of different math problems on this disk. These programs offer many ways for lower-level learners to "brush-up" on or improve their ability with numbers. Actually, GED students will probably find some of these programs challenging and entertaining as well as useful for practice in various areas of math.

TITLE: Elementary, Vol. 4: Math/Science

DATE: 1980 VER: 4.2
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Drill & Practice/Simulation
PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is an interesting disk. The two math programs (Estimate and Math Game) are excellent drill and practice in basic math exercises. GED students (as well as teachers) can be challenged by exercises which can be adjusted for difficulty. The other programs are simulations which will probably not be especially useful in ABE/GED programs. These would require considerable effort on the teacher's part to make relevant lessons for ABE/GED students. This disk is highly recommended for ABE/GED use just for the math programs.

TITLE: Mathematics, Vol. 1: Graphing

DATE: 1980
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Drill & Practice Game PRICE: 46.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: These programs require considerable teacher asistance and prior instruction in the areas to be covered. Probably not a good program for GED classes. The average student cannot progress very far in these programs on his/her own.

TITLE: Aestheometry

DATE: 1981
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Demonstration PRICE: 48.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: We don't cover conics in our GED program, but this tutorial disk could change that. Not only do the programs offer new insight and perspectives to the students, they are very nice to look at. After learning about elipses in the first four programs, number five allows the student to draw elipses based on his or her own equations. Parabola and Hyperbola are simple demonstrations that build on the first part of the disk.

TITLE: Elementary, Vol.8: Geometry

DATE: 1981 VER: 1.1
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 43.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: This diskette deals with basic geometry -- points and angles. The program is slow and adults may find that somewhat tedious. Basically the information presented is educationally significant and accurate, although it deals only with interior angles up to 180 degrees and does not address 360 degree angles or exterior angles. The information is limited, but what's there is good.

TITLE: Elementary, Vol. 9: Geometry

DATE: 1981 VER: 2.1
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial/Drill & Practice PRICE: 44.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This package focuses on lines and triangles and assumes some previous knowledge about concepts of rays, lines, etc. There is good use of graphics and gives good explanations and examples, but it is not a program to use with a student who has no prior experience with geometry. This is a good program for use with adult students and could be useful in a GED setting.

TITLE: Elementary, Vol. 10: Geometry

DATE: 1980
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a simple, straight-forward tutorial about geometry. The examples are clear and the pace is leisurely but not boring. At the end of each tutorial, the student is given the option of doing the appropriate quiz. Some of the directions are less than clear and require a little experimentation on the students' participation. Otherwise, this is a good, effective program.

TITLE: Mathematics, Vol.2: Measurement

COMPANY: MECC
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice/Tutorial
PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This disk is composed of nine programs drilling students on the English measurement system. A nice feature of the program is the inclusion of high resolution graphics for each question, adding spatial understanding. This should be very useful to ABE students, and GED students could use it to brush up their measurement skills.

TITLE: Mathematics: Vol. 3, Plane Facts About Geometry

DATE: 1981 VER: 1.1
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This program utilizes handout worksheets that students complete while operating the program. This disk is not very interesting or exciting, but it should prove effective if used with the handouts. Focus is on the various forms in geometry, such as parallelograms, triangles, and trapezoids. The student who works through these programs (using the worksheets) should have a good grasp of the various shapes in geometry and how to compute the area and perimeter of these forms. This is a good example of using different materials (computer and worksheets) to get concepts across to adult students.

TITLE: Mathematics Vol. 4: Advanced

DATE: 1981
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED+
PROGRAM TYPE: Simulation/Tool PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: As the title and menu indicate, this program is well beyond the scope of ABE/GED instruction. But if you have any real math whizes, this could serve as good challenge material for college prep.

TITLE: Special Needs, Vol. 2

DATE: 1982 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: 44.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This package was designed for motor-impaired students, i.e., students with little ability to press specific letters on the keyboard. The programs in this set are geared towards children, but "Arithmetic Practice" and "Change" could be used in an ABE class with good results. The graphics might offend some adult learners with their childishness, but overall, this might be worthwhile.

TITLE: Spanish Language Math Practice

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Drill & Practice PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: This is basic math drill and practice written in Spanish. Not appropriate unless you have Spanish-speaking ABE students.

TITLE: Automotive Technician Math, I

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Math LEVEL: Post-GED
PROGRAM TYPE: Drill & Practice PRICE: 44.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: This package is designed to supplement a basic course in Mathematics for car maintenance students at a vocational level. This provides problems in whole number and fraction functions, but it is generally not applicable as it assumes some knowledge about car parts and repair.

TITLE: Automotive Tech Math, Vol. 2

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Math LEVEL: Post-GED
PROGRAM TYPE: Tutorial PRICE: 44.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: This package is for use as a supplement to a basic course in math for automobile technicians at a vocational level. It supplies problems, exercises, and tests in solving decimals and percents. The support manual has handouts and worksheets for teachers to use with students. Although this program is designed to use with adults, it is not appropriate with ABE/GED students.

TITLE: Growgin's Fractions

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Tutorial PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a package reviewing basic concepts of fractions. This is a fun program and adults with no fractions skills will enjoy the tutorial and the game at the end, even though it is geared towards kids.

TITLE: Adventures with Fractions

DATE: 1983 VER: 1.1
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: 45.00 AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This program teaches ordering of fractions using common denominator methods and cross products method. This is a good program, cleanly written, slickly programmed, using clear examples and adequate graphics. Ideal for GED students.

TITLE: Guessing & Thinking

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Game PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This package introduces number lines and the concept of "ranges" in math. It also teaches some logical thought in trying to "guess" the correct numbers. Adults may find some of the graphics too "cute" but they will generally find the program useful.

TITLE: Early Addition

DATE: 1983
COMPANY: MECC
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Drill & Practice/Game PRICE: 44.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This has a drill and practice format which is really geared towards children in its graphics content. This is not recommended for adults but could be used. Worksheets in simple addition would yield the same results. Some adults might be motivated by the challenge of the game format, but the graphics are a handicap.

TITLE: Graphing

DATE: 1983
COMPANY: MECC
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Game PRICE: 36.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: There are four separate graphing programs on this diskette. Quotes is a computer graphics worksheet generater. As for the games on this disk, well, two out of three ain't bad. The coordinate version of Nomad presented here is no better than the one on MECC's social studies disk. Graph gives students some computer assistance in graphing simple equations. This should be useful for early GED students. Hurkle, a simple version of "Battleship" teaches ABE students map coordinates and direction.

TITLE: Probability

DATE: 1983
COMPANY: MECC
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Simulation PRICE: 36.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes

Comments: Although this disk is part of MECC's computer literacy program, I believe it can be very useful to GED math students studying probability. The three simulations allow the students to observe the laws of chance work on numbers of attempts that would be impractical without a computer.

TITLE: EduFun: Math Fun

DATE: 1982
COMPANY: Milliken Publishing Co.
P.O. Box 21579,
1100 Research Boulevard
St. Louis, MO 63132
(314) 991-4220
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Game PRICE: 60.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: none MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No

Comments: The programs on this disk were designed for children in grades 2-6. Frenzy is a math program that drills students in subtraction and division. The student must answer math questions before an alligator eats up his supply of fish. This is an interesting way to practice math exercises; the question is would adults be offended by the graphics and music? Since this drill is interesting and useful, the programs may be worth giving a chance. Many adults might not find them objectionable, but still we do not recommend this package for adult students.

TITLE: Decimals Sequence

DATE: 1980
COMPANY: Milliken Publishing Co.
P.O. Box 21579
1100 Research Boulevard
St. Louis, Mo 63132
(314) 991-4220
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Drill & Practice PRICE: 60.00
AVAILABLE FOR: Apple/Atari
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes

Comments: This decimals package contains fifty-six placement levels from beginning to advanced and includes exercises in adding, subtracting, multiplying, and dividing decimal numbers. The graphics and the slowness of the package will be handicaps with adults as the graphics are oriented towards children, but this one is worth the risk.

TITLE: Fraction Sequence

DATE: 1980
COMPANY: Milliken Publishing Co.
P.O. Box 21579
1100 Research Boulevard
St. Louis MO 63132
(314) 991-4220
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Drill & Practice PRICE: 60.00
AVAILABLE FOR: Apple/Atari
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes

Comments: This part of Milliken's Math sequence is geared towards recognizing the size of fractions as compared to other fractions. These programs are designed for children but could be used for adults if not for the "cute" graphics. The system manager included on each diskette is good for teachers to keep up with each student's progress. All-in-all, this could be used for ABE/GED but there are more appropriate things available.

TITLE: Subtraction Sequence

DATE: 1980
COMPANY: Milliken Publishing Co.
P.O. Box 21579
1100 Research Boulevard
St. Louis MO 63132
(314) 991-4220
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: 60.00
AVAILABLE FOR: Apple/Atari
AUXILLARY EQUIPMENT: none MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: NO

Comments: As one of several in the Math sequence, Milliken has added a basic subtraction drill and practice to the list of educational software available. The class manager on each diskette is a good and useful tool for teachers. The program gives excellent feedback to students, but the graphics are geared towards young children and may be found to be condescending by adults. This could be used in ABE classes, but better things are available for adult students.

TITLE: Math Games

COMPANY: Scholastic, Inc.
900 Sylvan Ave.
Englewood Cliffs NJ 07632
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Game PRICE:
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Integer Basic MANUAL: Poor
APPROPRIATENESS: Average RECOMMENDATION: Yes

Comments: The two programs ("Legacy" and "Take It or Leave It") that do not require Interger BASIC are interesting math games. "Legacy" provides a drill in multiplication tables and "Take It" provides a drill in using positive and negative signs. The programs appear exciting and well done; the documentation is NOT much at all, however. To get the full use of this disk the user must have a knowledge of Interger BASIC.

TITLE: Piece of Cake Math

DATE: 1983
COMPANY: Springboard Software Inc.
7807 Creekridge Circle
Minneapolis MN 55435
(800) 328-1223
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Drill & Practice PRICE: 34.95
AVAILABLE FOR: Apple/Atari/IBM/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Poor
APPROPRIATENESS: Average RECOMMENDATION: Yes

Comments: Although designed for children, this package provides basic drill and practice in math skills that would be appropriate to use for low to medium level ABE students. I don't think adults will be offended by the mediocre graphics and the games add a level of challenge that most adults would appreciate. The manual is poor, and teachers will get no support materials from it. There are no instructions on the diskette, so each teacher will have to work through the drill and be able to explain how to play to each student. Overall appropriateness for ABE students is Good.

TITLE: Fraction Factory

DATE: 1983
COMPANY: Springboard Software, Inc.
7807 Creekridge Circle
Minneapolis MN 55435
(800) 328-1223
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Drill & Practice Game PRICE: 34.95
AVAILABLE FOR: Apple/Atari/IBM/Commodore
AUXILLARY EQUIPMENT: none MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes

Comments: This is a good drill and practice program to use with adults who have some background in fractions. It is NOT a tutorial, that is, this program provides no explanation of concepts; it merely provides a medium with which students can practice concepts or knowledge previously gained. Although designed for kids, this package is usable with adults even though some might be impatient with the slowness of the screen changes.

TITLE: Teasers by Tobbs

COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Drill & Practice/Game PRICE: 55.00
AVAILABLE FOR: Apple/TRS/Atari/IBM/Atari
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is a great drill and practice game on math fundamentals. The program has the flexibility to work with very low level students and fairly advanced students. The method of play challenges players to fill in cells of addition or multiplication tables. One to four players can play or small groups can confer. The game is interesting and challenging at all levels.

TITLE: Tobbs Learns Algebra

DATE: 1983 VER: 1.1
COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Drill & Practice Game PRICE: 55.00
AVAILABLE FOR: Apple/Atari/TRS
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This package is an extension of the drill and practice game, Teasers by Tobbs. Even more than the original, this game goes beyond mere rote practice to spur problem-solving skills while the players learn math. The algebra challenge is a straightforward extension of the original game using algebraic "rules" instead of simple addition or multiplication to fill out math tables. Detective Tobbs goes one step further by asking the student to solve the rule itself. "Tobbs Gets Tough" is an apt description of the final game, which should be great for advanced GED students.

TITLE: Bumble Games

DATE: 1982 VER: 1.1
COMPANY: The Learning Company
4370 Alpine Road
Portola Valley CA 94025
(415) 851-3160
SUBJECT AREA: Math LEVEL: ABE
PROGRAM TYPE: Game PRICE: 39.95
AVAILABLE FOR: Apple/Commodore/Atari
AUXILLARY EQUIPMENT: None APPROPRIATENESS: Poor
MANUAL: Poor RECOMMENDATION: No
COMMENTS: The programs on this disk are definitely for children. The graphics and music would not be suitable for adults. The central purpose of the disk seems to be to teach children graph plotting which would be a useful math skill for adults, too, but we fear adult students would dislike the childish graphics and immature approach that this program takes to get its message across. We do not recommend this program for ABE/GED classrooms.

TITLE: Puzzle Tanks

DATE: 1984
COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Simulation PRICE: 39.95
AVAILABLE FOR: Apple/TRS
AUXILLARY EQUIPMENT: none MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Puzzle Tanks is a mathematics simulation/game which develops students' problem-solving skills. Each of four levels of difficulty leads to more complex arithmetic problems to be solved. This is a fun package to use and perfectly appropriate for use with adults. It is self-paced to the individual student, uses explicit graphics, and gives good feedback. It does not teach math but does use math skills.

TITLE: Whatsit Corporation

DATE: 1983
COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Simulation/Game PRICE: 55.00
AVAILABLE FOR: Apple/TRS
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This very interesting business simulation provides practice in estimating, calculating, and mathmatical modeling. The program lets students play the role of small business owners of a Whatsit franchise. Decisions such as price setting, hiring, firing, loan procurment, retirement, and inventory control all force the students to apply math skills. I think that this program should be especially useful for illustrating practical applications of algebra.

TITLE: The King's Rule:Math & Discovery

DATE: 1984
COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Math LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice PRICE: 39.95
AVAILABLE FOR: Apple/Com/TRS
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: King's Rule is a drill and practice/game which teaches the concept of patterns and relationships among numbers. This program could be used with students of fourth grade reading level and above, and it is appropriate for use in an ABE/GED setting. Besides teaching patterns, this package also helps to develop hypothesis testing and critical thinking/problem-solving skills. The manual suggests class-wide competitions (or tournaments), but, with adult students, this might be better used individually.

TITLE: Algebra Arcade

DATE: 1983
COMPANY: Wadsworth Electronic Co.
8 Davis Drive
Belmont CA 94002
(415) 595-2350
SUBJECT AREA: Math LEVEL: GED
PROGRAM TYPE: Drill & Practice PRICE: 49.95
AVAILABLE FOR: Apple/ Commodore/IBM
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: This package reinforces, through game format, some basic concepts about algebraic functions and equations. It offers limited instructions to students and is probably best used as a supplement to classroom teaching. This is suitable for GED students but not highly recommended.

MISC.

?

TITLE: Ducks

COMPANY: MECC
SUBJECT AREA: Miscellaneous LEVEL: NA
PROGRAM TYPE: Drill & Practice PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: N/A RECOMMENDATION: No
Comments: This package is geared towards duck hunters who need to know both state and federal hunting laws. Only Minnesota state laws are given, so it is inapplicable to any other state. This is a fun and informative program for anyone who wants to learn to identify different types of ducks, but it is useless for ABE/GED students.

TITLE: Music Theory

DATE: 1980 VER: 2.1
COMPANY: MECC
SUBJECT AREA: Miscellaneous LEVEL: GED +
PROGRAM TYPE: Drill & Practice PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: N/A RECOMMENDATION: No
Comments: This is a good package for music students who have had some music theory and want to practice and review. Music students in beginning and middle classes might find this drill and practice helpful, but this program is definitely not applicable for an ABE/GED classroom.

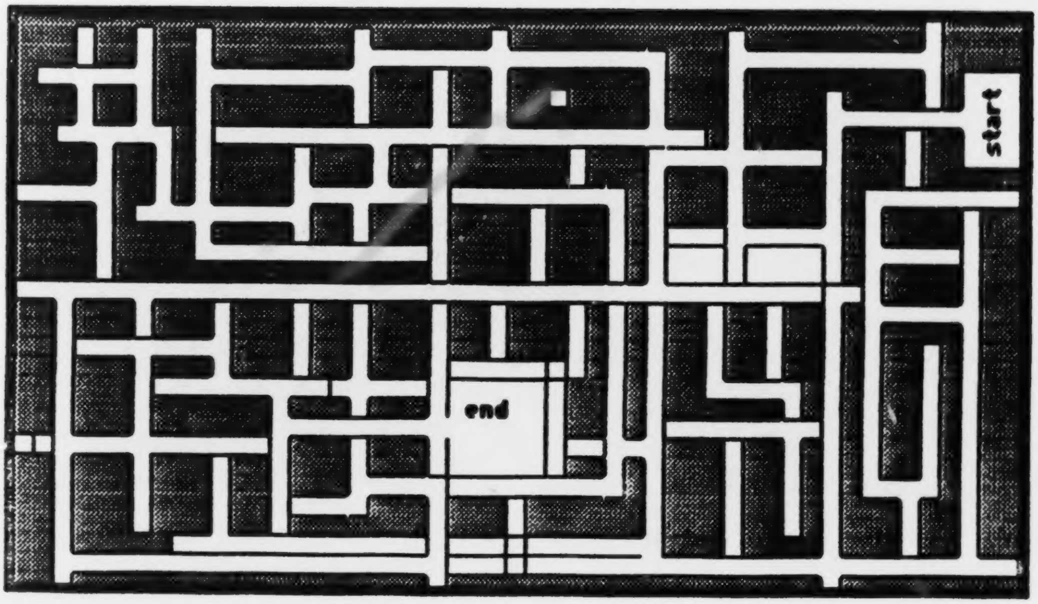
TITLE: Basketball Statistics

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Miscellaneous LEVEL: NA
PROGRAM TYPE: Tool PRICE: 44.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: 2 Drives MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: These programs are meant to be used by coaches or other people interested in keeping basketball statistics. This is not appropriate for ABE/GED classes.

TITLE: Wrestling Statistics

DATE: 1983
COMPANY: MECC
SUBJECT AREA: Miscellaneous LEVEL: NA
PROGRAM TYPE: Tool PRICE: 43.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: 2 Drives MANUAL: Average
APPROPRIATENESS: NA RECOMMENDATION: No
Comments: This disk, like Basketball Statistics, is for coaches and statisticians who may wish to keep wrestling statistics. It is not pertinent to ABE/GED classes.

problem solving



TITLE: Memory Castle

DATE: 1984
COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Problem Solving LEVEL: ABE/GED
PROGRAM TYPE: Drill & Practice PRICE: 39.95
AVAILABLE FOR: Apple/Commodore/TRS/IBM/Acorn
AUXILLARY EQUIPMENT: Color Monitor Good
MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: As part of the Sunburst series of problem-solving, this package works on Memory. Memory Castle is a game in three stages of difficulty which students can play to help improve memory. Pneumonics are taught to help the student remember instructions rather than writing them down. Used with the rest of the series, this package would work well with adults as it is self-paced and fun, but teacher intervention will be needed to teach the pneumonics material as this is not a tutorial program.

TITLE: Mind Puzzles

DATE: 1983 VER: 1.2
COMPANY: MECC
SUBJECT AREA: Problem-Solving LEVEL: ABE
PROGRAM TYPE: Game PRICE: 44.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This program provides two games supposedly designed to develop higher-level thinking and problem-solving skills. I found these games trite and uninteresting as will most other adult students. Children may be more captivated as there is good use of graphics and sound.

TITLE: Problem-Solving Strategies

DATE: 1983 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Problem-Solving LEVEL: GED
PROGRAM TYPE: Drill & Practice PRICE: 48.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: Color Monitor MANUAL: Good
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: This package teaches problem-solving skills using trial and error, exhaustive listing, and problem simplification. Three tools are also involved: drawing diagrams, making charts, and finding patterns. This could be used in GED class as a supplemental skill-builder, but it is not specifically geared for a GED classroom. Adults would probably find some parts of this useful and enjoyable as the graphics are fairly sophiscated.

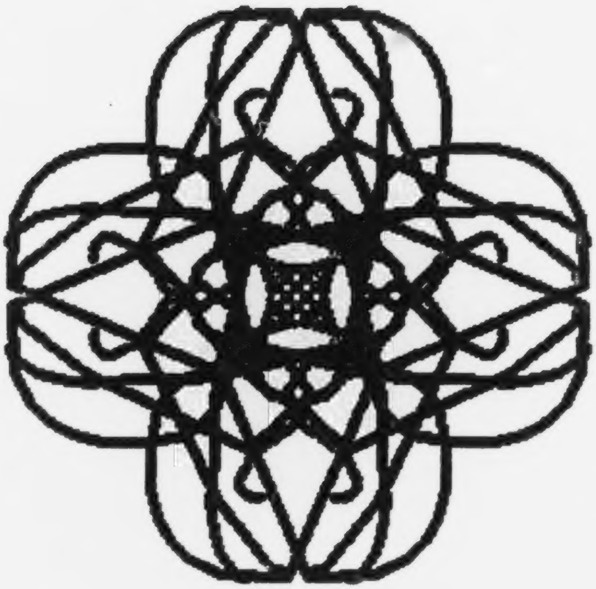
TITLE: The Pond: Strategies in Problem-Solving

DATE: 1984
COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Problem-Solving LEVEL: ABE/GED
PROGRAM TYPE: Simulation PRICE: 39.95
AVAILABLE FOR: Apple/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: The objective of this package is to teach users how to do problem-solving activities through learning the importance of sequencing and patterns. There are six levels with a reading level of 2.0. This program has won national awards for exceptional and gifted children, and I think it would also work well with adults. The graphics (frogs on lilly pads) are effective rather than cute, and we think adults will go for this one. Another good thing about Sunburst software is that they automatically send you a back-up copy of all programs in case one bombs.

TITLE: The Factory: Strategies in Problem-Solving

DATE: 1984
COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Problem-Solving LEVEL: ABE/GED
PROGRAM TYPE: Simulation PRICE: 39.95
AVAILABLE FOR: Apple/Commodore/TRS/IBM/Acorn
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: The Factory, a production-oriented simulation which teaches logic, visual discrimination and spatial perception, has won several awards (1983) for its innovative design and structure. Although not specifically designed for ABE/GED students, this package teaches useful and needed skills and would be appropriate for use in GED classrooms. The manual gives good support for the teacher and provides activity sheets that can be easily reproduced by xerox for class activities. Overall, my recommendation for use with adult students is "Good"; they will be challenged by the "real life" production exercises and find the program fun and easy to use.

SCIENCE



TITLE: Biology

DATE: 1983 VER: 3.3
COMPANY: Conduit
P.O. Box 388
Iowa City IA 52244
(319) 353-5789
SUBJECT AREA: Science LEVEL: GED
PROGRAM TYPE: Simulation PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: As purely instructional material, this package would not work: it would work beautifully to supplement classroom lecture and other materials. This package would give GED students an idea of some basic biological principles and they will enjoy the interactive nature of the programs. We do recommend this program for GED settings.

TITLE: High School Science Skills Series

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Science LEVEL: GED
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: 486.00 (Set) AVAILABLE FOR: Texas Instrument
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual reviews not done. See write-up on PLATO in Introduction.

TITLE: Physics: Elementary Mechanics

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Science LEVEL: GED
PROGRAM TYPE: Simulations/Tutorial
PRICE: 39.95
AVAILABLE FOR: Apple/Atari/IBM/Texas Instruments
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: Individual review not done. See write-up on PLATO in Introduction.

TITLE: Cells

DATE: 1982
COMPANY: Educational Activities, Inc.
P.O. Box 392
Freeport NY 11502
(800) 645-3739
SUBJECT AREA: Science LEVEL: ABE/GED
PROGRAM TYPE: Demonstration PRICE: 59.95
AVAILABLE FOR: Apple/TRS 80/Atari/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This program is a combination of demonstration and tutorial. Facts about cells are demonstrated on the screen, and then the student is asked several review questions. The program is interesting, though slow at times, and the questions cover the material presented. The only real reservation I have about the program concerns the limitations of the graphics. Interactive video would really improve this kind of program.

TITLE: Discovery Lab

DATE: 1984 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Science LEVEL: GED
PROGRAM TYPE: Simulation PRICE: Not Available
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: These simulations of laboratory situations give students a good taste for what the scientific method is and does, and that is an important part of education. Adults, as well as children, will find this package particularly interesting as they manipulate variables and watch specimen reactions. Although not specifically geared to GED classes, this program is useful in teaching deductive reasoning, good record-keeping, and scientific methodology. This will be especially useful with small groups who can work together and then share results in larger groups.

TITLE: Science, Vol. 3: Earth/Life Sciences

DATE: 1980 VER: 4.6
COMPANY: MECC
SUBJECT AREA: Science LEVEL: ABE/GED
PROGRAM TYPE: Simulation/Tutorial PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: These programs would seem to offer little for ABE/GED classes. The Fish Simulation examines the circulatory system of fish, in a very basic manner. Minerals aims to help students identify twenty-six common minerals. Odell Lake is an ecology simulation involving students role-playing as fish. Quakes seeks to teach students how to locate the epicenter of earthquakes. URSA is a simulation involving identifying several constellations in the sky and telling time by the stars. The subjects of these lessons might provide interesting lessons in some classrooms, but the teacher will have to supplement the computer programs with background information and additional materials.

TITLE: Science, Vol. 1: Biology/Physics

DATE: 1981 VER: 2.2
COMPANY: MECC
SUBJECT AREA: Science LEVEL: GED
PROGRAM TYPE: Simulation/Game PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: This package contains some games and some simulations in a variety of scientific experiments. For many of these programs, it will take someone well versed in chemistry and physics to figure out what is going on. This might be a good package to have to use in conjunction with a regular science class but is probably not very useful for getting students ready for a GED exam.

TITLE: Science, Vol. 1

DATE: 1980 VER: 2.2
COMPANY: MECC
SUBJECT AREA: Science LEVEL: GED
PROGRAM TYPE: Simulation/Game PRICE: 45.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Unavailable
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: Contents of Disk: Atom, Buffalo, Charge, Decoy 1, Newton 2, Slits, Tag, and Whales. The programs on this disk seem designed for advanced high school science classes. Contents is far beyond what GED students need to know to pass the test, and adult students are likely to become frustrated if there is not a teacher around who can explain the complex material covered.

TITLE: Science, Vol. 2: Biology/Physics

DATE: 1980 VER: 3.2
COMPANY: MECC
SUBJECT AREA: Science LEVEL: GED
PROGRAM TYPE: Simulation PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: In order for these simulations to be useful in a GED class, the teacher would have to supply considerable background knowledge in biology, physics, and chemistry. If the teacher was knowledgable in these areas, possibly the simulations could be made into excellent lessons. However, these simulations do not appear particularly interesting or stimulating by themselves.

TITLE: Elementary, Vol. 6: Nutrition

DATE: 1982 VER: 1.0
COMPANY: MECC
SUBJECT AREA: Science LEVEL: GED
PROGRAM TYPE: Tutorial PRICE: 46.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: As with Nutrition, Volumes 1 & 2, also from MECC, this piece of software teaches a very few rudiments of nutrition and gives the user the opportunity to look at his/her own intake of food and output of energy. This program is more appropriate for children and probably is not as good for use with adults as one of the other nutrition programs. Some teacher intervention will be needed to help get the required worksheets completed correctly regardless of what age of student user. The accompanying manual includes worksheets which may be xeroxed.

TITLE: Science, Vol. 4

DATE: 1982
COMPANY: MECC
SUBJECT AREA: Science LEVEL: GED +
PROGRAM TYPE: Tutorial/Demonstration PRICE: 48.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: This collection of demonstration and tutorial programs is actually more advanced than is suitable for GED classes. However, the Boyles Law Demonstration is very clear and may be of some help.

TITLE: The Incredible Laboratory

DATE: 1984
COMPANY: Sunburst Communications
39 Washington Ave.
Pleasantville NY 10570
(800) 431-1934
SUBJECT AREA: Science LEVEL: ABE
PROGRAM TYPE: Game PRICE: 55.00
AVAILABLE FOR: Apple/Commodore/Atari
AUXILLARY EQUIPMENT: Two Disk Drives, Color Monitor
MANUAL: Good
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: This problem-solving game teaches students note-taking strategies as the players build monsters using fanciful "chemicals." This program is definitely geared towards children and has little usefulness for adults.

SOCIAL STUDIES

TITLE: High School Social Studies Series

COMPANY: Control Data Publishing, Inc.
(800) 233-3784
SUBJECT AREA: Social Studies LEVEL: GED
PROGRAM TYPE: Tutorial/Drill & Practice
PRICE: 450.00 (Set)
AVAILABLE FOR: Texas Instruments
AUXILLARY EQUIPMENT: None MANUAL: Not Available
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: Individual review not done. See write-up on PLATO in Introduction.

TITLE: Regions of the United States

DATE: 1983
COMPANY: Educational Activities, Inc.
P.O. Box 392
Freeport NY 11520
(800) 645-3739
SUBJECT AREA: Social Studies LEVEL: GED
PROGRAM TYPE: Drill & Practice/Game
PRICE: 59.95 AVAILABLE FOR: Apple/TRS/Commodore
AUXILLARY EQUIPMENT: None MANUAL: Good
APPROPRIATENESS: Good RECOMMENDATION: No
Comments: This package is designed to help students become familiar with the states through drill and practice on blank regional maps. A Beginner's Quiz and a Super Quiz (both in game format) give students opportunities to test their competence. If the educational goal is to be able to fill in states on a blank map, this is a good package to fulfill that objective. Otherwise, forget this and stick to a good basic U.S. Geography text.

TITLE: History, Economics & Geography

DATE: 1980 VER: 4.6
COMPANY: MECC
SUBJECT AREA: Social Studies LEVEL: ABE/GED
PROGRAM TYPE: Simulation/Drill & Practice
PRICE:48.00 AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Poor RECOMMENDATION: No
Comments: These programs do NOT teach much History, Economics, and Geography. They provide a few drills and simulations in these areas, but in no way provide a base knowledge. The "economics" programs are entertaining guessing games that deal with basic economic/business tactics. Civil War is another guessing game, dealing with various battles in the Civil War. The States programs provide drill and practice in naming states and capitals. This disk really offers little for ABE/GED programs.

TITLE: Elementary,Vol. 3:Social Studies

DATE: 1980
COMPANY: MECC
SUBJECT AREA: Social Studies LEVEL: ABE
PROGRAM TYPE: Simulation/Game PRICE: 48.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: Yes
Comments: The programs on this disk will require considerable teacher assistance to provide suitable lessons for ABE/GED students, and this might prohibit adult students from using these materials as fully as they might use a more self-explanatory program. The amount of actual social studies covered in these programs is limited to some basic economic principles, some very general information on the Civil War, and drill and practice on naming the states and their capitals (the same one is on several disks). A creative teacher may find a use for this disk, but it will require considerable effort and imagination.

TITLE: Social Studies, Vol. 1

COMPANY: MECC
SUBJECT AREA: Social Studies LEVEL: GED
PROGRAM TYPE: Drill & Practice/Game PRICE: 48.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Average RECOMMENDATION: No
Comments: This is another social studies package that teaches very little social studies. I still think a basic text on U.S. Geography/History is the best bet for classroom social studies programming.

TITLE: Social Studies, Vol. 2: Simulations & Drills

DATE: 1980 VER: 4.3
COMPANY: MECC
SUBJECT AREA: Social Studies LEVEL: GED
PROGRAM TYPE: Drill & Practice/Game PRICE: 48.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None MANUAL: Average
APPROPRIATENESS: Good RECOMMENDATION: Yes
Comments: This is drill and practice on world and U.S. geography and includes a few games on collective bargaining and nuclear crises. It also includes a program on Minnesota agriculture which is great if you're from Minnesota or planning to move there and farm. If one of the objectives of an ABE/GED program is studying world and U.S. geography, this program would be a good place to start, but it is by no means comprehensive.

TITLE: Elementary, Vol.6: Social Studies

COMPANY: MECC
SUBJECT AREA: Social Studies   LEVEL: GED
PROGRAM TYPE: Game/Simulation   PRICE: 49.00
AVAILABLE FOR: Apple
AUXILLARY EQUIPMENT: None   MANUAL: Average
APPROPRIATENESS: Average   RECOMMENDATION: No
Comments: I'm not sure that this package would help GED students toward passing their exam, but it is fun and will help to develop problem solving skills. Advanced students may get bored quickly due to lack of information presented, but most adult students will have fun with this, especially Oregon Trail, the famous (or infamous) simulation of pioneers crossing the midwest.

APPENDICES A & B AND GLOSSARY

Appendix A

Bibliography

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Weiner, R. (1984). Evaluating courseware: You don't have to be computer literate to effectively select CAI materials. *Lifelong Learning: The Adult Years*, *7*(7), 14: 16-17; 28.

Appendix B

Checklist for Software Evaluation

1 = No or Poor 2 = Average 3 = Yes or Good

1 2 3 Suitable for Adults
1 2 3 Suitable for ABE level
1 2 3 Suitable for GED level
1 2 3 Reflects appropriate values
1 2 3 Content is accurate
1 2 3 Content is educationally significant
1 2 3 Goals and objectives are clear
1 2 3 Feedback to student acceptable
1 2 3 Modification permitted to meet individual needs
1 2 3 Teacher intervention required
1 2 3 Suitable for individual instruction
1 2 3 Suitable for small group instruction
1 2 3 Suitable for entire class instruction
1 2 3 Utilizes various learning modes: aural, visual, verbal, etc.
1 2 3 Free of bugs and breaks
1 2 3 Deals tactfully with user errors
1 2 3 Control user has over program operation
1 2 3 Program directions clear
1 2 3 Good documentation for teacher
1 2 3 Good documentation for student
1 2 3 Use of graphics, sound, color
1 2 3 Screen displays effective
1 2 3 Ease of use for students
1 2 3 Interest level of program
1 2 3 Makes appropriate use of computer resources
1 2 3 Student enjoyment of program
1 2 3 Will student learn what program seeks to teach
1 2 3 Effectiveness of program compared with other instructional methods in same area
1 2 3 Overall usefulness for suggested level of adult learner

GLOSSARY

The words in this glossary are provided to assist the individual with little microcomputer experience to understand the text of this document. In addition some words in this section are not used in the body of the document but are provided to facilitate the reader's learning more about the educational uses of microcomputers in the future.

ASCII (Characters or files)
The American Standard Code for Information Interchange, an acronym pronounced "as-key," is a binary code using 8-bits to represent 128 text and control characters.

ASSEMBLY LANGUAGE
A symbolic programming language that uses convenient abbreviations (mnemonics) rather than groupings of 0's and 1's; it is an intermediate-level language in terms of user orientation.

AUTHOR LANGUAGES
High-level languages that allow the user to program without having much knowledge of a computer language. Some author languages determine programming needs through the user's responses to a series of questions and then provide an appropriately formatted program.

BASIC
Beginner's All-Purpose Symbolic Instruction Code; a programming language commonly used for interactive problem solving by users who may not be professional programmers.

BAUD RATE
The speed at which bits are transmitted through serial interfaces measured in bits per second (e.g., 300 baud =300 bits per second).

BINARY NUMBER SYSTEM
The numeric system used in computer operations that uses the digits 0 and 1 and has a base of 2.

BIT
(Short for binary digit) A digit position in a binary number; the smallest unit of information that can be represented by binary notation.

BRANCH
Program logic pattern that allows the computer to bypass (branch around) instructions and, therefore,

alter the normal flow of execution.

BUG

An error in computer program. The process of eliminating such program errors is known as debugging.

BUSINESS SOFTWARE

Programs specifically designed for business applications such as payroll, budgeting, or accounting.

BYTE

Eight adjacent bits; a unit of storage.

CARTRIDGE

Plug-in plastic container holding either ROM or RAM chips depending on its function.

CATHODE RAY TUBE (CRT)

Otherwise known as a monitor or video display unit, the CRT is an output device that is essentially a TV screen, although it will generally have much finer resolution than an ordinary television.

CENTRAL PROCESSING UNIT (CPU)

Acts as the "brain" of the computer; composed of three sections--primary storage unit, arithmetic/logic unit (ALU), and the control unit.

CHIP

A small (e.g., 1/4"X1/4"), flat piece of silicon on which electronic circuits are etched.

COBOL

Short for Common Business-Oriented Language; a business programming language.

CODING

The process of expressing a problem solution in a programming language; a set of rules for data conversion and representation.

COMPILER PROGRAM

A language translator program used for high-level-languages, such as FORTRAN or COBOL; translates source-program statements into machine-executable code.

COMPUTER

A general-purpose machine with applications limited by the creativity of the humans who use it; its capabilities are derived from its memory and the speed and accuracy with which it can process data.

COMPUTER LITERACY

A broad, general knowledge of how to use computers to solve problems, of the functioning of the software and hardware, and an understanding of the societal implications of computers.

COMPUTER-ASSISTED INSTRUCTION (CAI)

Direct interaction between a computer, acting as instructor, and a student.

COMPUTER BASED TESTING (CBT)

Testing programs that use computers in many ways.

COMPUTER MANAGED INSTRUCTION (CMI)

Primarily classroom management systems that use computers to help teachers to organize and manage teaching and record keeping for classes.

COMPUTER SYSTEM

What most people mean when they say "computer." A computer system consists of a computer and all the hardware and software used in connection with its operation. A computer system requires at least a central processing unit (CPU) connected to peripheral devices for storage, and user input and output.

COURSEWARE

Educational software, usually accompanied by a range of support materials.

CURSOR

A mark or notation on the display screen that indicates current location.

DAISY-WHEEL PRINTER

A character-at-a-time impact printer with removable daisy wheels (petal-like font carriers); produces letter-quality type.

DATA

Raw, unorganized facts.

DATA BASE

The cornerstone of a management information system; basic data is commonly defined and consistently organized to fit the information needs of a wide variety of users within an organization; provides central data organization independent of specific applications.

DATA PROCESSING

Performing a programmed sequence of operations on a body of data to achieve a given result; also known as information processing. More commonly a term used to refer to the manipulation of large amounts of data by a computer.

DATA-BASE MANAGEMENT SYSTEM (DBMS)

A set of programs that serves as an interface between the data base and three principal users--the programmer, the operating system, and the manager (or other information user); provides a method of arranging data to limit duplication, an ability to make changes easily, and a capability to handle direct inquiries.

DEBUG

To check and correct errors found in a program.

DEDICATED COMPUTER

A computer that has a specific function determined by its hardware.

DIRECT-ACCESS STORAGE

Auxiliary storage whereby data can be retrieved in any order at random, e.g., magnetic disk.

DIRECTORY

A list of files stored on a peripheral storage device such as on a disk. Directories are usually obtainable from the operating system program.

DISK DRIVE

A machine used to rotate the magnetic disks during data transmission; common speeds range from 40 to 3,600 revolutions per second.

DISC OPERATING SYSTEM (DOS)

An operating system for a disk drive.

DOCUMENTATION

The collection of manuals and instructions that explain proper use and possible applications of a given piece of hardware or software.

DOT-MATRIX PRINTER

A character-at-a-time impact printer that produces characters through the use of dot-matrix patterns; also called wire-matrix printer.

DRILL PROGRAM

A series of questions used to test and increase the user's knowledge.

EDUCATION GAME

A program that attempts to combine learning with game play.

EDUCATIONAL SOFTWARE

Programs geared to drill, tutor, or instruct the user.

ELECTRONIC DRAWING PEN

See light pen.

ELECTRONIC SPREADSHEET

A computerized grid divided into rows and columns into which numbers and formulas may be inserted. The computer can update instantly the entire sheet when new values are input (entered into the grid); used for financial analysis.

ELECTROSTATIC PRINTER

A nonimpact printer that forms an image of a character on special paper using a dot-matrix of charged wires or pins. When the paper is moved through a solution containing ink particles of an opposite charge from the pattern, the particles of ink adhere to each charged pattern on the paper.

ELECTROTHERMAL PRINTER

A nonimpact printer that uses heat in the print element to create characters on heat-sensitive paper.

ERGONOMICS

The science of changing working conditions to suit the worker in an attempt to eliminate stress and physical problems.

EXECUTE

The performance of the instructions in a program by a computer, synonymous with running a program.

FEEDBACK

Information used to evaluate the performance of a processing system; a concept in system theory, a check on the system to see whether or not predetermined standards are being met.

FIELD

A meaningful item of data in a record.

FILE

A collection of related records; sometimes referred to as a data set.

FIRMWARE

Programs that are wired into the computer by the manufacturer.

FLEXIBLE (FLOPPY) DISK

Also called a flexible diskette or floppy disk; low-cost, random-access form of data storage made of plastic. Similar to a soft or bendable record (audio recording).

FLOPPY DISK FORMAT

Indicates the density of the data recorded and whether it is stored on one side or both sides of a floppy disk.

FLOWCHART

A graphic representation of the processing that is performed in a program.

FONT

A particular size and style of type.

FORTRAN

FORmula TRANslator; a programming language used primarily in performing mathematical or scientific operations.

HARD COPY

Printed output on paper, microfilm, or slides.

HARD-DISK

A rigid platter used for random-access data storage with greater storage capacity than floppy disk.

HARDWARE

More properly called computer hardware, it is the collection of physical devices which make up a computer system.

HIGH-LEVEL LANGUAGE

English language-like coding scheme that is procedure-, problem-, and user-oriented.

IMPACT PRINTER

A printer which physically presses the print elements against the ribbon and paper to make the impression.

INFORMATION

Data that has been organized and processed so that it is meaningful.

INFORMATION SYSTEM

A system designed to process input data for output as information. Feedback is provided by the information users, as to the quality and adequacy of the information.

INPUT

Collecting, verifying, and coding the data for processing; data submitted to the computer for processing.

INPUT DEVICE

A peripheral device allowing the user to enter information into the computer (e.g., a keyboard).

INPUT/OUTPUT (I/O) DEVICE
Peripheral devices that have both input and output components (e.g., video terminals).

INPUT/OUTPUT PORTS (I/O PORTS)
Electronic connections that link various peripheral devices to the central processing unit.

INTEGRATED CIRCUIT
Electronic circuit etched on a small silicon chip less than 1/8 inch square. Permits much faster processing than with transistors and at a reduced price.

INTERACTIVE PROGRAM
A program that permits the user to input data during execution.

INTERFACE
An electronic and physical connection between various electrical and electromechanical devices, the most important of which for a computer are between the cencentral processing unit and the various peripheral devices. A serial interface transmits or accepts information one bit at a time, whereas a parallel parallel interface transmits or accepts information one computer word at a time.

INTERPRETER
A language translator program used in small computer systems to translate the source program into machine language--one instruction at a time.

JOYSTICK
An input device used with computer games to control cursor and object movement on the video display (CRT) screen by inputting electrical responses; also called game paddle.

K
A symbol used to represent 1024 storage units (1024 bytes) when referring to a computer's memory.

KEY-TO-DISK SYSTEM
Several keying devices connected to a minicomputer and a disk drive.

KEY-TO-DISKETTE SYSTEM
A keyboard display screen, and flexible disk drive.

KEYPUNCH
A typewriter-like machine used to punch the data holes onto a punched card.

LASER PRINTER

A type of nonimpact printer that combines laser beams and electrophotographic technology to form images on paper.

LIBRARIAN PROGRAM

Software that maintains a directory of programs in auxilliary storage and contains appropriate procedures for additions or deletions.

LIGHT PEN

A pen-shaped object with a photoelectic cell at its end; used to draw lines on a visual display screen; also called an electronic drawing pen.

LISTING

The actual lines of instruction making up a program.

LOAD

To enter a program into the memory of the computer from some peripheral storage device.

LOGIC ERROR

An error in designing the solution causing the end result to be incorrect; the program executes but calculates the wrong solution.

LOG-IN OR LOG-ON

A sign-on procedure for users of a timesharing system.

LOGO

A powerful programming language that allows even small children to program effectively by defining new commands and creating graphics.

LOOP

Program logic pattern in which the computer repeatedly executes a series of instructions as long as specified conditions are met.

LOW-LEVEL LANGUAGES

A primitive language translator that facilitates giving instructions to the central processing unit.

MACHINE LANGUAGE

The only set of instructions that a computer can execute directly; a code that designates the proper electrical states in the computer as combinations of 0's and 1's.

MACHINE-ORIENTED LANGUAGE

A program language that achieves maximum efficiency with the computer; examples are machine language and assembly languages.

MAGNETIC DISK

A storage medium consisting of a metal platter coated on both sides with a magnetic recording material upon which data is stored in the form of magnetized spots.

MEMBRANE KEYBOARD

A flat, pressure-sensitive keyboard that is activated by touching a specific point as opposed to depressing a standard typewriter key.

MEMORY

The integrated circuits of a computer in which information is stored that is directly accessible to the CPU (central processing unit), as opposed to peripheral storage which is accessible only via interfaces.

MENU

A list of choices that appear on the visual display (e.g., monitor or CRT) screen the user can select from to command the computer to execute a specific program segment.

MICROCOMPUTER

A computer whose central processing unit (CPU) is on a single chip. All of today's personal computers are microcomputers (e.g., Apple IIe, Apple IIc, Apple Macintosh, Tandy 1000, Radio Shack TRS-80, IBM PC, Commodore 64, Kaypro, etc.)

MICROPROCESSOR

The central processing unit of a microcomputer; fits on a small silicon chip.

MICROPROCESSOR CHIP

A single, integrated circuit on a small silicon chip containing one arithmetic/logic unit, control unit, and primary storage; the central processing unit (CPU) of a microcomputer.

MICROPROGRAM

A sequence of instructions wired in read-only memory; used to tailor a system to meet the user's processing requirements.

MINICOMPUTER

A computer with the components of a full-size system but having a smaller memory.

MNEMONICS

A symbolic name (memory aid); used in symbolic languages (e.g., assembly language) and high-level programming languages.

MODEM

A device that modulates and demodulates signals transmitted over communication facilities.

MODULATION

A process used in modems to make business-machine signals compatible with communication facilities; the conversion of data from digital (on/off) form to analog (wave) form before transmitting it.

MONITOR

See cathode ray tube (CRT).

MOTHER BOARD

Also called a cardcage or backplane, a printed circuit board containing slots onto which can be plugged various other circuit boards.

MOUSE

A desk-top input device that controls cursor movement allowing the user to bypass the keyboard; must be used with special software.

MULTIPROCESSING

A multiple central processing unit (CPU) configuration in which the jobs are processed simultaneously to speed up execution time.

NETWORK

The linkage of computers for sharing messages and information.

NONIMPACT PRINTER

A printer which uses heat, laser technology, or photographic techniques in which the print elements never touch the paper to make the impression.

ONLINE

In direct communication with the computer.

ONLINE (PROCESSING) SYSTEM

A system that allows the user to interact with the computer during program execution; it permits direct communication between the user and computer.

OPERATING SYSTEM

A collection of programs designed to permit a computer system to manage itself and to avoid idle central processing unit (CPU) time while increasing utilization of computer facilities.

OUTPUT

Retrieving, converting, and communicating the results of processing; the information that comes from the computer as a result of processing.

OUTPUT DEVICE
A peripheral device allowing the user to receive information from the computer (e.g., printer).

PARALLEL INTERFACE
See interface.

PASCAL
A programming language named after French mathematician Blaise Pascal; first developed to teach programming techniques to students; it is rapidly expanding its original intentions because it is powerful and highly structured; used for batch and interactive processing.

PERIPHERAL DEVICES
Devices for communicating with the central processing unit (CPU) or storing data in CPU accessible form (e.g., keyboard, printer, disk drive).

PIXEL (PICTURE ELEMENT)
One of the many image points comprising a graphic display.

PLOTTER
A special printer used to print graphic images such as charts, graphs, and pictures.

PRINTER
An ouput device that prints characters on paper. Many printers output only, but some may optionally be equipped with a keyboard for inputting as well. This option is known as KSR (Keyboard Send/Receive) and converts the printer into a terminal. The non-keyboard option is known as RO (Receive Only).

PRINT-WHEEL PRINTER
A line-at-a-time impact printer which has one print wheel for each print location on the entire line; the print wheels rotate until an entire line is in the appropriate print position, then a hammer presses the paper against the print wheels.

PRINTER-KEYBOARD
An impact printer similar to an office typewriter; instructions for printing come from the central processing unit (CPU); a keyboard allows an operator to communicate with the system.

PROCESSING
Classifying, sorting, calculating, summarizing, or storing the data on a computer in order to provide information for the user.

PROCESSING PROGRAM
A routine, usually part of the operating system, that is used to simplify program preparation and execution.

PROGRAM
A series of step-by-step instructions that provide a problem solution and tell the computer exactly what to do.

PROGRAMMER
The person who writes step-by-step instructions for the computer to execute.

PUNCHED CARD
A commonly used storage medium in which data is represented by the presence or absence of holes in a specified row and column coding scheme. Each particular set of holes has a distinct meaning which is translated into machine language for the computer.

RAM CARD
A storage medium for microcomputers; it can be plugged into the microcomputer in the same slot that the disk drive uses.

RANDOM-ACCESS MEMORY (RAM)
Memory storage that holds programs or data and can be written into or read from very quickly.

READ-ONLY MEMORY (ROM)
Computer memory containing items that cannot be deleted or changed by stored-program instructions because they are "hard-wired" into the circuitry.

REAL TIME
Refers to the capability of a system or device to receive data, process it, and provide output fast enough to control an activity being performed.

RECORD
A collection of data items, or fields, that relate to a single unit.

REGISTER
An internal computer component used for temporary storage of an instruction or datum; capable of accepting, holding, and transferring that instruction or datum very rapidly.

REMOTE TERMINAL
A terminal that is placed at a location distant from the central computer.

RPG

Report Program Generator; an example of a problem-oriented language originally designed to produce business reports.

RUN

To perform the list of instructions in a given program; when a computer is executing a program, we say the program is being run. Also, the command to run a program (RUN).

RUN-TIME ERROR

An error detected while the program is running that stops the program's execution; usually caused by telling the computer to do something that is not possible.

SAVE

To store a program on a peripheral storage device; also, a command to do so (SAVE).

SERIAL INTERFACE

See interface.

SILICON CHIP

Solid-logic circuitry on a small piece of silicon used to form the primary storage of computers.

SILICON VALLEY

Nickname for the high-tech area in the Santa Clara Valley south of San Francisco, California.

SIMULATION PROGRAM

A program that simulates a specific machine or situation.

SOFT COPY

Data displayed on a cathode ray tube (CRT) screen; not a permanent record as contrasted with hard copy.

SOFTWARE

Programs used to direct the computer for problem solving and overseeing operations.

SOURCE PROGRAM

A sequence of instructions written in either assembly language or high-level language by the programmer.

SYNTAX ERROR

A violation of the rules of a programming language similar to a grammar error committed in English; disallows execution of the program.

SYSTEM

Related elements that work toward a common goal.

SYSTEM ANALYSIS

A detailed, step-by-step investigation of a system for the purpose of determining what must be done and the best way to do it.

SYSTEM ANALYST

A specialist who evaluates the aims, organization, priorities, and needs of an activity to devise a more efficient method for current procedures; often utlizes the computer's capabilities to achieve his/her goals.

SYSTEM DESIGN

Process during which alternative solutions to problems uncovered in the system analysis phase are designed, the cost effectiveness of the alternatives is determined, and final recommendations are made.

SYSTEM FLOWCHART

The group of symbols used to represent the general information flow; focuses on inputs and outputs rather than on internal computer operations.

TAPE CASSETTE

A sequential storage medium using high-density digital recording tape to record data in small computer systems.

TAPE DRIVE

A device used to read from or write to magnetic tape.

TELECOMMUNICATIONS

The combined use of communication facilities such as the telephone system and data processing equipment.

TELECOMMUNICATIONS NETWORK

A means by which one or more mainframes is linked to other computers for communication.

TERMINAL

A device through which data can exit from or be entered into a computer.

TRANSISTOR

A type of electronic circuitry that controls current flow without the use of a vacuum; smaller, faster, and more reliable than vacuum tubes.

TUTORIAL PROGRAM

A program that explains new material and then tests the user's retention.

USER FRIENDLY

Software or hardware that is easy to use and understand for the user.

UTILITY PROGRAM
A subsystem of the operating system that is capable of performing specialized, repeatedly used functions such as sorting, merging, and transferring data from one input/output device to another.

VARIABLE
A meaningful symbolic name assigned by a programmer to the computer's storage locations.

VIDEO GAME
A fast action, arcade-like computer game; often uses graphics.

VIDEO TERMINAL
A terminal that uses a video display unit (monitor,CRT) as its output device.

VISUAL DISPLAY TERMINAL
A television-like screen used to display soft-copy output; sometimes called a CRT (Cathode Ray Tube).

VOICE SYNTHESIZER
A device that enables the computer to produce vocal output.

WORD PROCESSING
A program that allows text material to be entered, corrected, added or deleted, and printed in a desired form.

WORD SIZE
Based on the size of the registers and decides the complexity of operations that can be handled.

XEROGRAPHIC PRINTER
A type of nonimpact printer that uses printing methods similar to those used in common xerographic copying machines.

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